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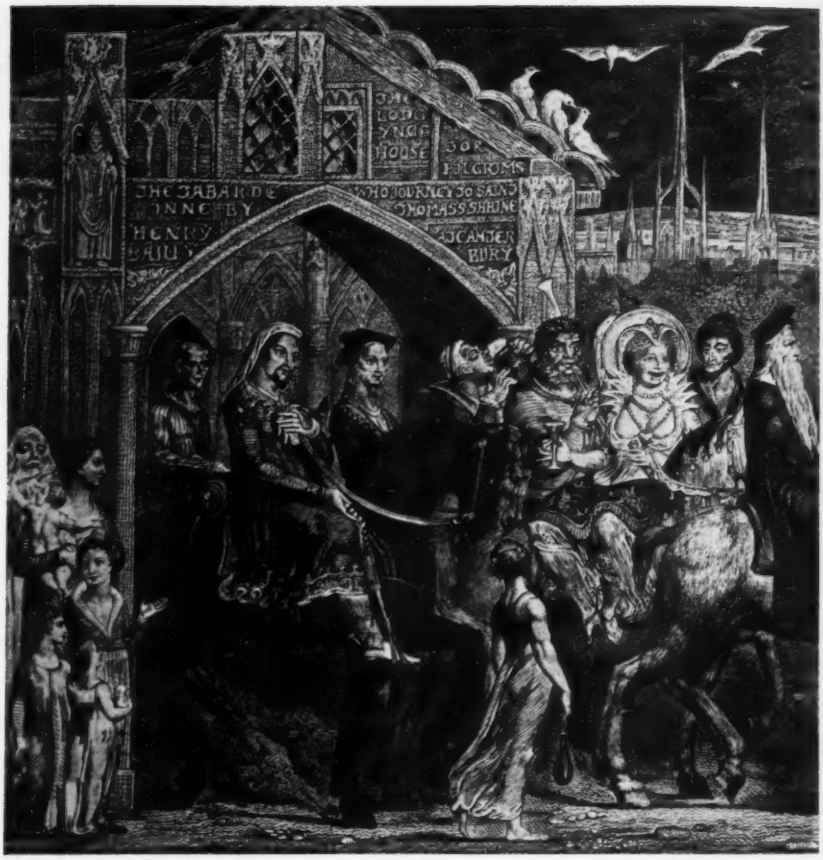

Detail from "The Canterbury Pilgrims" drawn and engraved by William Blake from the copy in the Cleveland Museum of Art.

BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION

VOL. 32, NO. 1
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Editorial

IN FURTHERANCE OF RESEARCH; FREE MICROFILM COPYING

THE COLLECTING of data from a review of the literature is a basic step in the preparation of medical papers. Had libraries all the important literature for their readers it would not be necessary to make use of the books of our sister medical libraries. This is seldom the case for most libraries including the Army Medical Library are incomplete in their holdings and it is frequently necessary to call upon other libraries to complete the gathering of this type of data.

To aid the reader in obtaining the literature from other libraries there are several possibilities. He may go to the library in question and personally consult the volumes. He may borrow through interlibrary loan the volumes he needs—that is, if the libraries are willing to loan these volumes; or failing this he can for quite some financial outlay have a typescript (subject to typographical errors) made of the necessary material or obtain photostats or photoprints.

Another way to meet this problem is to have a film copy made of the needed articles or books. This is generally done through the local library, or where this is not convenient orders may be sent direct by individuals. The advantage of film copy is that it is inexpensive and need not be returned but may become part of the local library's holdings. If needed, photoprints and lantern slides can be made directly from the microfilm.

In this connection it should be noted that the Army Medical Library is now providing microfilms *without charge* in lieu of the loan of books including periodicals to those who prefer them or where, because of their rarity or fragile condition, these books cannot be loaned.

This is a most important development for the furtherance of research and it is hoped that other large libraries will follow the example of Dr. Atherton Seidell and his associates. Largely through his efforts in co-operation with the Librarian free microfilm of the library's resources is now being furnished. This is in line with the ever-increasing contributions of libraries to the advancement of research and learning.

THOMAS E. KEYS

Bath: Physicians and Literature

By FINLEY FOSTER

IN 1721 when Nathaniel Bailey, *Philologos,* wrote the entry on Bath in his *Universal Etymological Dictionary,* he set down as the Anglo-Saxon name of the city Acmanceaster, to which he appended the translation "the Sick Folks Town." The unembroidered realism of his translation leads one naturally to a consideration of the names of this city, for few localities have had such a succession of designations over their period of recorded existence.

That the waters had been used medicinally long before the Romans conquered Britain is evidenced by the tradition that by bathing in the springs Bladud, the father of King Lear, recovered from leprosy. According to Dr. John Jones, Bladud founded Bath in 890 B.C., a fact which he recorded in his *The Bathes of Bathe Ayde,* published in 1572. Some reviser or member of the Town Council corrected this date to 863 for the inscription under the statue of King Bladud which was erected in a niche on the side of the King's Bath in 1699. But we of later years and more historical caution are content to allow King Bladud his place in the mists of early Britain without inquiring too closely concerning the years of his life.

The Roman city of Bath, which is the first known to us, appears to have been founded very shortly after Ostorius Scapula defeated and captured Caractacus in the Severn valley in 50 A.D. The name which the Romans bestowed upon the city was Aquae Solis or Waters of the Sun. About the springs the Romans built a fortified city which would serve both for their healing and their pleasure. Although it is impossible to know the full extent of their works, it is evident from the extensive remains of the bath and the temple of Minerva (or Sul Minerva as the case may be) that the city was a place of rest and recuperation for the Romans. In the baths they incorporated the features of the baths of Rome.[1] (See Fig. 1.) The large bath was eighty-two feet long and forty feet wide and floored with lead of sufficient thickness to weigh forty pounds to the square foot. This bath together with the sudatories and other appropriate rooms may have covered an extent of seven acres. Life in Bath during the days of the Romans can only be conjectured, for no written records have survived.

With the passing of the Romans and the occupation of this part of England in 577 by the Saxons, the city received the name of Akemanceaster as Bailey noted in his Dictionary. In 1697 Dr. Robert Peirce gave this explanation of the meaning of the name: "One of the *Anglo-Saxon* Names, by which this antient City was formerly call'd, was ACKMANCHESTER, or the City of *Ached* and *Lame* People, from the Concourse of such *Infirm Persons,* that came hither in *Bathing Seasons.* Were it to have a new Name given it now, upon the same consideration, it might

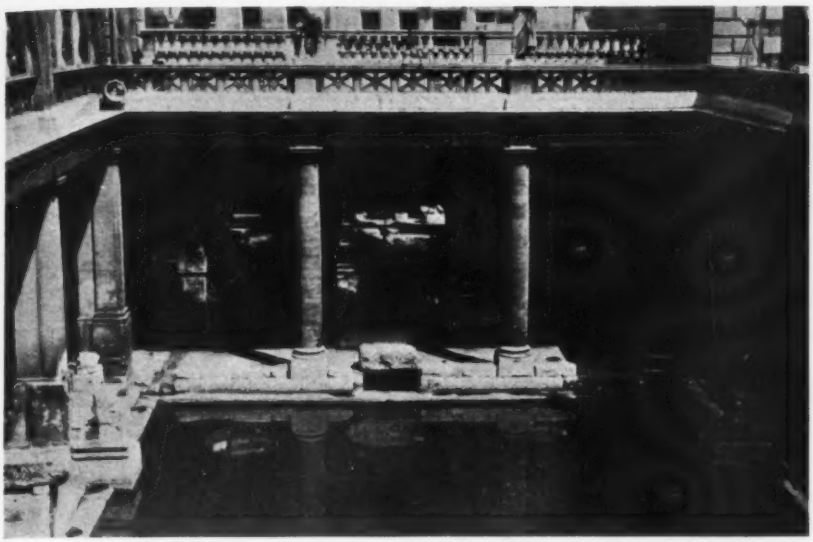

FIG. 1. The remains of the Roman Baths. Photograph by Finley Foster.

be call'd CRIPPLE-TOWN; as *Cripple-Gate* was from the *Cripples* that used to lie there begging."[2] It is interesting to note in this connection that the road from London to Bath was long known as Akeman Street. As late as 973 the use of the Saxon name appears in the *Old English Chronicle* as Acemannes Ceaster, but with the additional remark that the city is also known as Bathan.

The transition in the name from one which is based upon the sufferings of humanity to that which signifies the means of the cure, seems to have been a gradual one with both names doing service at the same time. In the *Old English Chronicle* under an entry for the year 864 occurs the following passage: "in illa famosa urbe thaet is aet thaem hātum bathum,"[3] i.e., in that famous city that is at the hot baths. From this dative came the variants Bathum, Bathun, Bathon, which in the thirteenth century eventually became Bathe. By the end of the sixteenth century Bath without the final "e" was the common designation, though

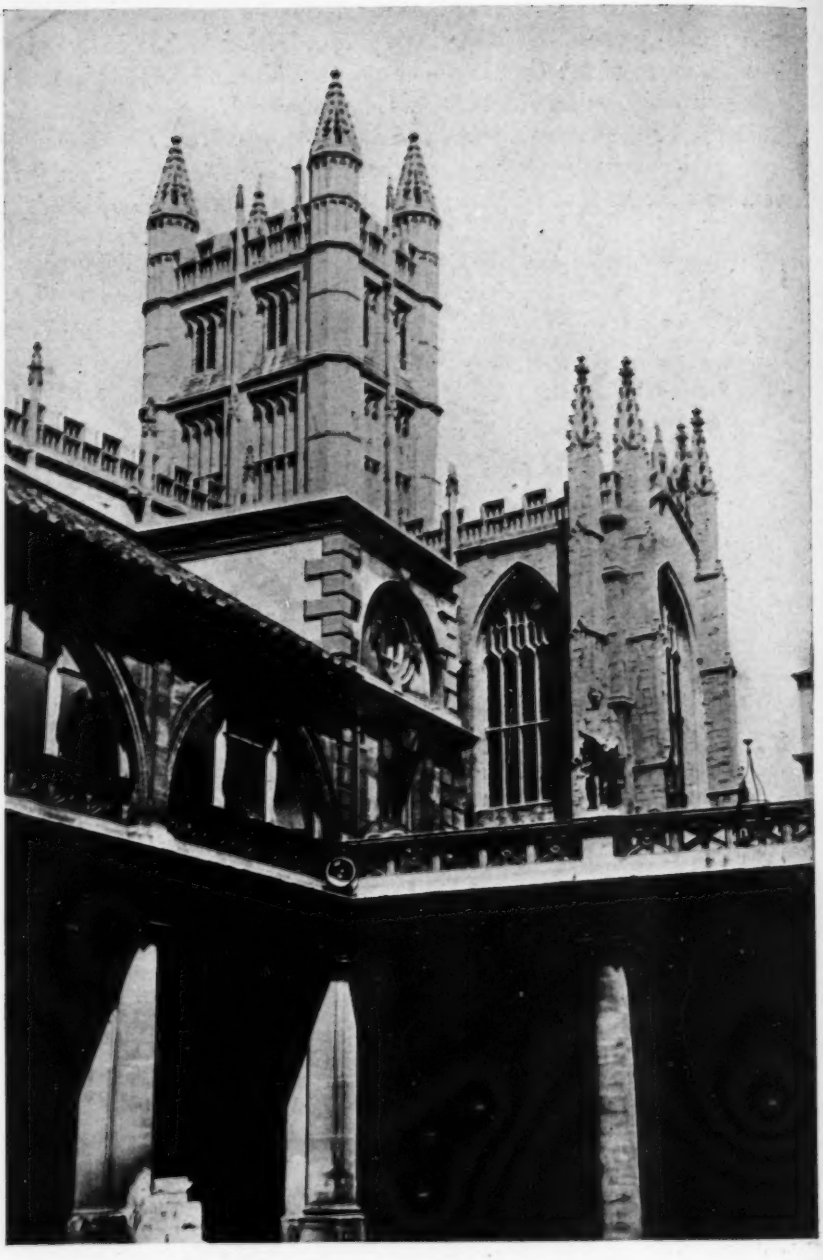

FIG. 2. Bath: the Abbey Church. Photograph by Finley Foster.

for another hundred years persons frequently spoke of going to "the Bath."

The Anglo-Saxon city, which was built upon the ruins of the Roman city, was greatly advanced in 775 when King Offa established a monastery. It was in the abbey church of this monastery that King Edgar was crowned in 973. As a center for physical healing and religious endeavor the city became one of the most prominent in the west of England. Shortly after the Conquest, however, it was caught in the turmoil of that troubled time and was almost completely destroyed by Geoffrey of Contances. Once again the city rose from its ruins, this time through the efforts of Joannes de Villula, the physician and chaplain of William Rufus. In 1088 Joannes, who had been appointed bishop of Somerset, moved the episcopal seat from Wells to Bath, rebuilt the Abbey, and restored the baths.

Although Bath is no longer the seat of the bishop, its name remains in the title of the bishop of Somerset, Bishop of Bath and Wells. Bishop Savory (1192-1205) kept his seat at Bath but changed his title to that of Bath and Glastonbury. His successor, Bishop Jocelin (1206-42) moved to Wells and established the present title because the monks of Bath had an equal voice with the canons of Wells in the choice of a bishop. Although the monastery at Bath was dissolved by Henry VIII in 1539 and the monks dispersed, the title has continued to carry both place names.

From the time of its foundation the Benedictine monastery at Bath was the center of and the chief influence in the life of the city. After the Conquest its importance was developed by the encouragement which it gave to weaving and the cloth industry. Chaucer indicated that the cloth was better than that woven in Holland but inasmuch as the facts do not appear to bear him out, one must put down his statement as that of a patriotic Englishman who would yield nothing to foreigners. But it is rather notable that Chaucer nowhere mentioned the waters and laid his emphasis on the commercial product of the town. And that brings us to the Wife of Bath.

Chaucer began working on his *Canterbury Tales* about 1387 and left them unfinished when he died in 1400. How early in these years he wrote the Prologue is not pertinent to our purpose; but the Wife of Bath certainly is. Alysoun (Alice) dwelt "besyde Bathe." Professor Manly has identified this place as the parish of St. Michael-without-the-Walls or St. Michael-without-the-North-Gate. Caught by the circumscription of its protecting walls, the city could expand only by the development of areas beyond the gates, and because of the river and the hills it was but natural that it should expand first in a northerly direction. Moreover, the London road (now Walcot Street) and the Glouces-

ter Road (now Broad Street) converge on the North Gate and expansion would naturally occur along these well-travelled roads. The church of St. Michael stands at the point of the intersection of the two roads and is the one where the Wife of Bath claimed precedence over her neighbors and was joined serially to her five husbands.

Chaucer's portrait of this woman who began her matrimonial life at the age of twelve and now somewhat beyond her fortieth year is looking for a sixth husband, is his most detailed characterization of any of the pilgrims. In fact it is so detailed that some have thought that Chaucer had a distinct person in mind but no one has discovered his exemplar. Never a beauty, for the wide spacing of her teeth and her red face would ruin whatever other good features she may have possessed, she must have had graces which attracted men to her; and I suspect that the crowning grace was wealth. How she managed the first marriage I do not know but she brazenly admits that her first husband was old and rich. Because the two that followed were of the same type, when she came to marry her fourth husband, she must have been in good financial circumstances. Three trips to Jerusalem, to say nothing of Rome and other places on the Continent, were not undertaken by a woman of her character in pilgrim's weeds with scant supplies. She was one of the most travelled women in England and such travel required money. In view of the fact that Chaucer states that she is an expert in weaving, I suspect that many a loom in Bath was working for her. But in spite of her wealth she has had no luck in marriage: the three old men did not please her; her fourth husband was a reveller who aroused her jealousy; and her fifth, the clerk Jankin, "which that I took for love and no richesse," who from books knew all about women, died just after she had obtained mastery over him. "So blesse his soule." I wonder who won the sixth round?

Blake's drawing of the Wife of Bath in his plate, *The Canterbury Pilgrims*[4] (see frontispiece), shows clearly that the artist understood her very well. He has overdressed her in finery, some elements of which Chaucer mentions rather slyly, for they were already out of fashion and would be so recognized by his readers. Moreover, Blake has drawn her mouth open with the visible evidence of her unfortunate teeth and given her something of a "come-hither" smile. Just as Chaucer's portrait is imaginary, so is Blake's; but they are in perfect harmony.

What did the good people of Bath think about this person whom Chaucer had so fastened upon them? There is no record but I doubt if they heard of her until long after the author's death. The *Canterbury Tales* were first printed by William Caxton in 1478, followed by a second printing in 1483. In any case the preceding years of the century had been much troubled by the rivalries of the houses of Lancaster and

York and probably the people of Bath were much more concerned about their political position and the state of the cloth market than in any Wife of Bath as portrayed by a London poet long since dead.

Other things were happening in the little walled city. The great abbey church which had been built in 1107 by John de Villula had been neglected after the episcopal seat was transferred to Wells. Apparently the Abbey was not sufficiently wealthy to maintain it without diocesan aid. In 1500 the old church was pulled down and a new, smaller one, the present Bath Abbey[5] (Fig. 2), was begun by Bishop Oliver King. The work progressed slowly and was completely stopped for a long time by the dissolution of the monastery in 1539. It was not until 1616 that this building which was to be an integral part of the social life of Bath in the eighteenth century, was completed and dedicated. It is the last pre-Reformation church built in England.

The center of life in Bath moved gradually from the cloth trade to the cause of the city's original establishment, the hot springs. Never entirely neglected, the waters were slowly brought into prominence during the sixteenth century. Dr. John Jones's *The Bathes of Bathe Ayde,* published in London in 1572, is the earliest medical book upon the virtues of the waters and may have done something to increase their use. Doubtless the visit in 1616 of Anne of Denmark, who was the wife of James I, did something to draw people to the city; her visit is still commemorated by the Queen's Bath, which name was bestowed in her honor upon the bath next to the King's Bath. It was this combination of physicians and upper-class society that eventually developed and made Bath socially the second city in England.

Throughout the seventeenth century the physicians kept pushing the great value of the waters. In 1628 Dr. Tobias Venner published his *The Baths of Bath: or, A necessarie compendious Treatise concerning the Nature, Use, and Efficacy of those famous hot Waters; published for the Benefit of all such as yearly, for their Health, resort to those Baths.* His opening paragraph is equal to any modern advertisement:

> Bath, so called from the baths in it, is a little well-compacted city, and beautified with fair and goodly buildings for receipt of strangers. Although the site thereof, by reason of the vicinity of hills, seem not pleasant, being almost invironed with them; yet, for goodness of air, nearness of a sweet and delectable river, and fertility of soil, it is pleasant and happy enough; but for the hot waters that boil up, even in the midst thereof, it is more delectable and happier than any other of the kingdom.[6]

Dr. Venner's enthusiasm for Bath is understandable enough, but I am afraid he does a little more than put his best foot forward when he thus describes the city. I rather believe that John Evelyn was closer to the truth when he recorded in his diary under the date of June 27, 1654:

"The town is entirely built of stone, but the streets, narrow, uneven and unpleasant." And John Wood in the mideighteenth century remarked that at this time "the streets and public ways of the City were become like so many Dunghills, Slaughter-Houses, and Pig-Styes. . . . The Baths were like so many Bear Gardens, and Modesty was entirely shut out of them; People of both Sexes bathing by Day and Night naked; and Dogs, Cats, and even human creatures were hurl'd over the rails into the water, while People were bathing in it."[7] Bath of the eighteenth century was still far to seek.

Dr. Venner stated one principle which was heartily supported by his fellow practitioners: each person who visited Bath to use the waters should place himself in the hands of a physician resident there.

> Here I may not omit a special reason, why many receive little benefit by the baths, but oftentimes much hurt; and that is, because they take not the aid and directions of a physician present, in the use of the bath; but bring their physick and directions with them from some physician in the country where they abode; perhaps, one that well understands not their state of body, much less the nature and true use of the baths. But, admit that they have their directions from an understanding physician, yet I must tell them, that many accidents fall out oftentimes in bathing, that require the help of a present physician.[8]

This attitude of the physicians of Bath toward their brethren in the rest of the country appears to have persisted for a long time. After the establishment of the General Hospital in 1742 the admitting board of physicians accepted patients from elsewhere on the basis of the diagnosis by their own attending physicians, but as soon as the patient arrived the doctor in charge that week at the Hospital made a new diagnosis and prescribed accordingly. Only a Bath physician knew the proper use of the waters.

But Dr. Venner was not through: not all physicians in Bath were acceptable guides to the restoration of health by the use of the water and the townspeople were not always disinterested in their recommendations of either the baths or the doctors.

> The thing, therefore, that I would have you take notice of, is, how the people of that place [Bath], that keep houses of receipt, and their agents (for such they have in every corner of the streets, and also before you come to the gates,) press upon you, importuning you to take your lodging at such and such a house, near to such and such a bath; extolling the baths, near which they dwell, above the rest; respecting altogether their own gain, not your good or welfare. And when they have gotten you into their houses, they will be ready to fit you with a physician, perhaps an empirick or upstart apothecary, magnifying him for the best physician in town, that will not cross them in removing you to another bath; though the bath, near which you are placed, be altogether contrary to your infirmities and state of body, or at least, not so convenient as some other.[9]

Cloth was still being woven but Bath was on the way to becoming a city for those who house the ill and practice medicine. Moreover, Dr. Venner implied only too clearly that there was much exploitation of the sick. "But, here, I must advertise you, that you expose not your body to the unlearned empirick,* that can neither find out the peccant humours, nor parts affected; but to such as are learned in that art, that can well judge of your state of body, and accordingly prescribe you remedies, as your constitution and affected parts shall require."[10] Nowhere did he say so but the moral obviously is that the wise will consult Dr. Venner. In any case Venner, with an M.B. and M.D. from Oxford, had the largest practice of all the physicians at Bath.

The end of the cloth manufacturing period of Bath came very soon after the visit to the city of Charles II and his queen Catherine of Braganza. In 1662 the queen had tried the cold waters of Tunbridge Wells as a cure for her sterility but found them ineffective. The next year on the advice of her physicians she tried drinking the hot waters at Bath. Although in this case also the waters were ineffective, the sojourn of the merry monarch and his court set Bath above all other watering places in England not only for medicinal purposes but also for pleasure and relaxation. It set the pattern which was developed completely in the next century.

In 1668 that faithful servant of Charles II, Samuel Pepys, having through his salary and "presents" reached a position of affluence, visited Bath. Apparently the city was much improved since the visit of his friend, John Evelyn, for Pepys noted "the town most of stone, and clean, though the streets generally narrow," and how he walked "round the walls of the City, which are good, and the battlements all whole."[11] He also tried the waters of the Cross Bath, for which experience he got up at four o'clock in the morning in the hope of bathing before other people. In this he was disappointed: "much company come; very fine ladies; and the manner pretty enough, only methinks it cannot be clean to go so many bodies together in the same water." The problem posed by this last observation was partially solved in the eighteenth century by emptying the baths every evening and refilling them with fresh water.

The map of Bath published herewith (Fig. 3) is taken from Thomas Guidott's *A Discourse of Bathe, and the Hot Waters there,* London, 1676, and shows the city as it was at the time when Pepys visited it. The compression of the city by the walls is clearly delineated but the streets seem no more narrow than many in the city of London. The locations of the various baths are marked except for the omission of the Queen's Bath, which is only indicated by the side drawing of the King's

* Samuel Johnson defined "empiric": "A trier; an experimenter; such persons as have no true education in, or knowledge of physical practice, but venture upon hearsay and observation only." *Dictionary,* 1755.

Bath under the title "The forme of the New Bath." The King's Bath and the Queen's Bath were side by side, being divided only by a wall with an opening in it to permit the passage of persons from the one to the other. Both baths were fed from the same spring but because the water went first into the King's bath the temperature of the Queen's Bath was a little lower.[12] The abbey church, St. Peter's, looms large in the drawing because it was the most prominent building in the city. It

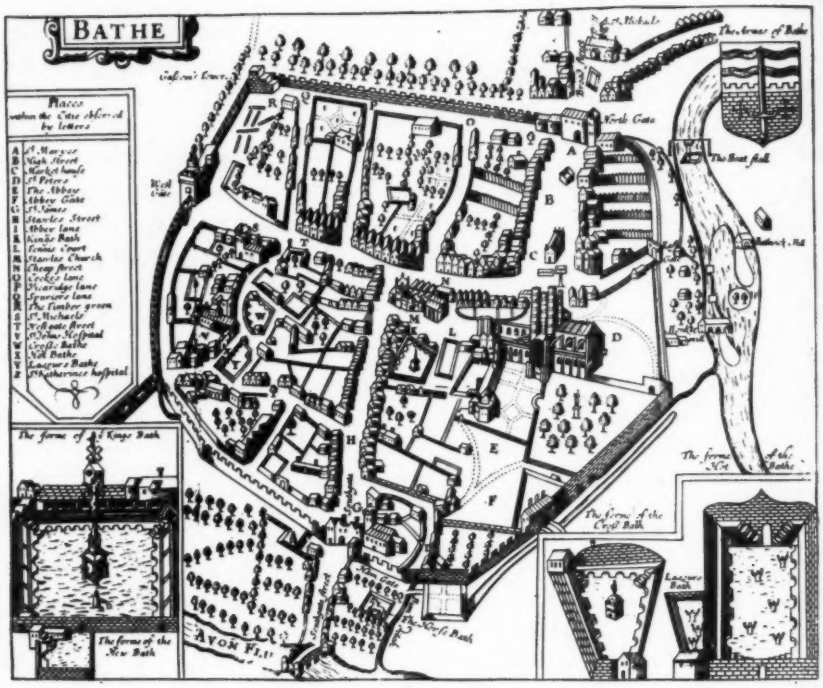

FIG. 3. Bath in 1676 from Thomas Guidott's *A Discourse of Bathe.* (Courtesy of the Army Medical Library.)

is interesting to observe that although the monastery was dissolved in 1539, much of its ground has remained open; not until the eighteenth century was this ground occupied. The tennis court (marked L) appears on no other maps; I suspect it was built for the visit of Charles I and quickly abandoned, because it is not on the map published in Dr. Robert Peirce's *Bath Memoirs* in 1697. Beyond the North Gate is a crude drawing of St. Michael's church so well known to the Wife of Bath. All of this area is now in the center of the city, for the building developments of the eighteenth century were to the north and northwest beyond the walls, even though these walls were removed early in the eighteenth century.

The growth of popularity of the springs of Bath naturally attracted physicians to the city. Many of them were good men anxious to do the best they could for their patients and curious as to the composition and effect of the waters. The quaintness of some of their queries, as they seem to us today, should not be held against them; their medical knowledge was very limited. Dr. Guidott in the book referred to above after making pertinent observations on many things, listed a series of questions to which he would like answers:

> Whether the Bath-waters ought to be drank Hot, or Cold?
> Whether in great or little Quantity?
> Whether it may be drank at Meals?
> Whether Bathing and Drinking may be done on the same day?
> Whether Drinking may be in the morning, and Bathing in the evening of the same day?
> Whether the Bath-water ought to be taken many days together, or else some days to Bathe, and others to Drink?
> Whether large Draughts may be taken, or more moderate; and what time is required should be between the Draughts?
> How many days it is convenient the Bath-water should be drank?
> Whether any Medicines may be usefully taken with the Waters, to further their operation?
> What times of the year are most proper to Drink it in?
> Whether the Bath-water may be taken in Winter?
> Whether the Leap-year hath any malign Influence on drinking the Waters?
> Whether the Waters may be safely used in the Dog-days?
> Which is first to be done, either Bathing, or Drinking?[13]

Would that the learned doctor had given us his answers and his reasons therefore.

Dr. Guidott, who through the good offices of Dr. Maplet had an excellent practice in Bath, seems to have been a turbulent sort of person, for three years after his book was published he lost his practice because of difficulties in his relations with his fellow physicians. His book, however, is quite restrained and contains only a little slap at Dr. Venner who had died sixteen years previously and could not reply.

To write about Bath appears to have been second nature for most of the doctors; every one of prominence published a small book either upon the waters or upon his cases. Part of this continuing stream of books can be attributed to the natural interest of the physicians in the medical problems involved in their use of the hot springs, and part to the fact that being in competition with other watering places, such as Tunbridge Wells and Epsom Wells, they felt the need of keeping the virtues of their waters before the public. "What the antient Poets feigned of their Nectar, or Drink of their Gods, may be truly said of our Bath-Waters; That they are not only of a delicious Taste, but also of admirable Use

for the Preservation of Health: Like the Water of Life in the Revelation, clear as Crystal, designed by Heaven for the Healing of Nations."[14] After that there really is not much more to say.

The rapid development of Bath in the eighteenth century was the work of Ralph Allen supported by an intelligent Board of Aldermen and Town Council. Associated with them was John Woods, architect, succeeded after his death in 1752 by his son, also named John Woods, whose buildings and plans for the city made it the talk of society. Moreover, the regulation of social life by Beau Nash from 1704 until his death in 1761, filled the days and evenings of those who had come to drink the waters or to amuse themselves in the society to be found there when the London season was over. It is no wonder that the great and small of England frequented the city, for it had much to offer both for bodily health and for the occupation of empty minds, not forgetting that it was the happy hunting ground of match-making mothers. On all these matters, from the publication of Oliver Goldsmith's excellent *Life of Richard Nash* in 1762 until today, much has been written.

Among the men who were interested in forwarding the fortunes of the city was Dr. William Oliver. Born in Cornwall in 1695, he entered Pembroke College, Cambridge, in 1714; he was graduated a Bachelor of Medicine in 1720 and received the degree of Doctor of Medicine in 1725 after he had done additional work at the University of Leyden. In January, 1729/30, he was elected F.R.S. He began his work in Bath in 1725, and through Ralph Allen, a fellow Cornishman, and Dr. Borlase was introduced to the best society and assisted in the development of an excellent practice. In 1730 he turned his attention to the development of a hospital for the poor of the nation.

In 1711 plans for such a hospital had been laid but the solicitation for funds was so poorly conducted that by 1723 only four hundred pounds had been collected. Evidently in 1730 Allen, Nash, and Oliver decided that the hospital should be built and the latter two went to work to raise the money. The major credit must go to Nash, for he was tireless in his efforts and by virtue of his "kingship" able to approach even royalty itself. "The King per Mr. Nash, £200; the Prince of Wales, do; the Princess of Wales, £50," etc., is the way the final record stood; and not to be left behind was Nash himself with a contribution of £100. Goldsmith related with evident satisfaction the story of how Nash forced the Duchess of Marlborough, a noted niggard, to give thirty guineas, a sum which later in the evening she raised to forty guineas because her luck at cards was good. How much Dr. Oliver collected is not known but he did offer land for the hospital which was first accepted and then declined. Allen gave the stone for the building and delivered it cost free to the builders.

Thus the Water or General Hospital, now known as the Royal Mineral Water Hospital, was established. When its organization was perfected in 1740, Oliver was appointed physician to the Hospital and was considered its chief. The Hospital opened its doors in 1742 with accommodations for forty patients, who were admitted under the rules laid down by Dr. Oliver. But with the opening Dr. Oliver's troubles began.

One of the surgeons of the Hospital was Archibald Cleland, who had many ideas for the improvement of the baths and for the development of vapor baths. Apparently his ideas, some of which dealt with greater privacy for the bathers and the regulation of fees for chairmen, guides, etc., did not suit Allen and Oliver, for in 1743 Cleland was dismissed as surgeon to the Hospital. At once a pamphlet war broke out. Cleland appealed to the public; the Governors responded with a vindication of their action; Cleland replied with his own vindication; and so it went. Of the politics behind all this there is little record, but it is obvious that Dr. Cleland was unable to break the power of Dr. Oliver, who had behind him the important men of the city. The controversy was officially brought to a close in a most modern fashion: a committee under the chairmanship of Philip Allen, brother of Ralph, investigated the whole matter and came to the conclusion that Dr. Oliver's conduct was to be highly commended. But the modern reader, without taking sides, is at least permitted to raise his eyebrows slightly when he notes the relation of the chairman to one of the chiefs of the reigning group.

Cleland remained in Bath and continued to press for his plans. Partially in his behalf Smollett published *An Essay on the External Use of Water. In a Letter to Dr. * * * with Particular Remarks upon the present Method of using the Mineral Waters of Bath in Somersetshire, and a Plan for rendering them more safe, agreeable, and efficacious.* This pamphlet was printed in London in 1752 "and sold by D. Wilson, in the Strand, and by Mess. Leake, and Frederick at Bath." The latter half of the pamphlet explains Cleland's program and presses strongly for it. Whether or not Smollett after receiving his medical degree in 1750 tried to establish a practice in Bath is not certainly known, but it seems hardly likely that he would have written so much about Cleland's proposals if he had not known him well and been conversant with the conditions at Bath. I cannot believe that after his ridicule of the physicians of that city in *Peregrine Pickle,* which he published in 1751, he would have been acceptable to the medical faculty there. In any case, he vigorously supported Cleland against the physicians and the corporation:

> Indeed, Mr. Cleland seems to have waved all considerations of private emolument, in consenting that his own name should not appear in the plan,

but that it should be offered as the joint opinion of all the physicians and surgeons of Bath: but, in all probability, they are determined to reject every thing that is known to come from his quarter, how much soever it may tend to their own honour, or the good of their fellow-creatures; for I am informed by a particular friend who lately came from that place, that since his last scheme was presented, the physicians have come to a resolution to exclude all surgeons from their consultations on this subject. This must be an arrow directly leveled at him (as it does not appear that any other of his profession has proposed any thing worthy of public notice), and justifies the old observation, that an injured person will never be forgiven by those who have done him wrong. Nay, so industrious are his adversaries in the prosecution of their enmity, that all methods, even the lowest arts, are practised to prepossess the minds of strangers against him, by a most malicious misrepresentation of his character; though, to those who will give themselves the trouble of inquiring into the truth of facts, he will (I am confident) appear to be a man of good morals, and uncommon ability.[15]

I cannot find that Smollett's pamphlet had any effect on the controversy.

The first half of Smollett's *Essay* is in reply to Dr. Oliver's *A Practical Essay on the Use and Abuse of Warm Bathing in Gouty Cases,* published in Bath in 1751. Smollett's opinion of the waters of Bath when used externally, either hot or cold, was that they were "not even equal to pure simple element, except in those cases, where their styptic or astringent quality may be of service, namely in some particular kinds of ulcers, and oedematous swellings."[16] Moreover, he believed that the best way to use the waters was by means of a vapor bath, a method not in use in Bath but one urged by Cleland. All in all, and especially by his recommendation of the use of ordinary water, Smollett's pamphlet was not one to further the interests of the city and its physicians.

Four years later Dr. William Lucas (1713-71) incurred the wrath of Dr. Oliver and his fellow physicians because of his *Essay on Waters,* which he published in 1756. Lucas, an Irishman, after a stormy political career in Dublin, where he was an apothecary, went to the Continent to study medicine; he received the degree of Doctor of Medicine from the University of Leyden on December 20, 1752. Then he visited many of the European spas to study the composition of their waters. When he returned to England in 1753, he naturally settled in Bath, for he probably knew more about the mineral waters of Europe than any physician there. As the result in his *Essay* he pointed out many mistakes which the physicians of Bath were making concerning the composition of the waters and their use. When one considers that he demolished Dr. Oliver's theory that medicinal quality of Bath water lay in its "sope and brimstone," and the belief of another physician that green tea and Bath water were the same, one can understand why Dr. Oliver and other physicians announced publicly that they would not join Dr. Lucas

in any consultations, an announcement which was equivalent to stating that he was not a physician with proper knowledge. With that the battle between the two was joined.

Exasperated, Dr. Lucas resorted to the printing press and published in 1757 *Letters of Doctor Lucas and Doctor Oliver. Occasioned by a Physical Confederacy Discovered in Bath.* The pamphlet contained three letters: (1) To Dr. Oliver, November 7, 1757; (2) To Dr. Lucas, November 7, 1757; (3) To Dr. Oliver, November 8, 1757. In the first letter Dr. Lucas accused Dr. Oliver of being the head of a confederacy to determine who should or should not practice at Bath. Dr. Oliver's reply was brief and to the point: he would not consult with Dr. Lucas, whom he called a scoundrel. Dr. Lucas's final retort pulled no punches:

> Then sir, you can bring your private passions, your piques, your resentments, however groundless, to interfere with the duties of your profession! No person is to look for health, otherwise than as you direct, at Bath! In this, as in other respects, I pride in differing with you: . . . what bulls will you next issue to damn the man that thus spurns at your great example and authority?[17]

Dr. Lucas apparently lost nothing but rather gained by this controversy. His *Essay on Waters* met with favorable approval elsewhere. In July 1757 he addressed to The Royal College of Physicians of London a small book[18] in which he overthrew Dr. Rutty's *Methodical Synopsis of Mineral Waters.* In this, too, he was thought to be in the right, for on June 25, 1759, he was admitted a licentiate of the College of Physicians London. By this time Lucas was practicing in London, for Oliver had ruined his opportunities in Bath. The controversy, however, must have enhanced his reputation; he quickly built up a practice said to be worth £3,000 *per annum.* With his life after his return to Ireland in 1761 we are not concerned.

Dr. Oliver must have thought the year 1757 the worst of his life, for while Dr. Lucas was attacking him from one quarter Dr. William Baylies was after him from another. Baylies (1724-87), a Worcestershire man, after spending a number of years as an apothecary, married an heiress and proceeded to the study of medicine at Aberdeen, from which he received his degree of Doctor of Medicine on December 18, 1748. He set up practice in Bath where he flourished until he joined Dr. Lucas in his attack on the way medical matters were being conducted at Bath. In 1757, Baylies published *Reflections on the Use and Abuse of Bath Waters* and immediately found himself in the ill-graces of the triumvirate, Dr. Oliver, Dr. Moysey, and Dr. Charleton. In no way deterred by this opposition, Baylies continued his attack. Having learned that the Governors of the Hospital were about to elect a physician to the staff of which Dr. Oliver was head, Baylies proposed himself to the Board as a candidate. Probably because he knew he had not the slightest chance

of being elected, he wrote a long letter to the Governors in which he pointed out their errors in the conduct of the Hospital. He reminded them that in May 1744 they had set up a staff of six doctors and that in May 1747 they had confirmed that number; and that in May 1750 they had increased the number of patients from forty to eighty and reduced the number of physicians to three. In this last action they had neglected to secure the approval of the bishop and judges as provided in the act of Parliament setting up the Hospital. What Baylies was trying to do was to break Oliver's power by increasing the number of physicians; indeed, he went so far as to urge that any doctor in Bath who was willing to contribute his services should be allowed to do so. He also pointed out that the act also called for the publication of the history of cases but that nothing had been published since the Hospital opened in 1742. Finally he noted that the election of a physician required a public notice fourteen days in advance and that this notice had not been given. Having made these adverse criticisms, Baylies asked the Governors to elect him one of the physicians to the Hospital, for at the moment there were only two, Dr. Oliver and Dr. Moysey.

His attack and application stirred up Bath. When they met on the eighteenth of May, the Governors decided not to proceed with the election until June 2 because the proper public notice had not been given and a number of them expressed the opinion that all qualified physicians should be allowed to help in the work of the Hospital. By June 2, however, the Oliver machine had the situation in hand; the number of physicians was kept at three, Dr. Rice Charleton was elected to fill the vacancy, and the secretary was abused by many for allowing Baylies to see the books of the Hospital. On this last point Baylies apparently won, because the Governors determined that the books were public and open to anyone; but practically he lost, for he was not allowed to see them again.

In the fall began a pamphlet war which lasted for two years. After Dr. Lucas published his letters to Dr. Oliver, Baylies, who had also been included in the ban on consultation, came forth with *A Narrative of Facts, Demonstrating the Actual Existence and true Cause of that Physical Confederacy, in Bath, Made known to the Public In the printed Letters of Dr. Lucas and Dr. Oliver.* Bath. 1757. In it he told of his experience with Dr. Oliver, his conversations with Dr. Charleton, who acted as intermediary, and the final refusal of Drs. Oliver, Moysey, and Charleton to consult with him on any case. Not content with this, in 1758 Baylies published in Bath *An Historical Account of the Rise, Progress, and Management, of the General Hospital, or Infirmary, In the City of Bath: with some Queries, to the Principal Conductors of that Charity.* His attack on Oliver's regime was so severe that it could not be

ignored. One of the Governors of the Hospital, which one is not known, replied at once with *A Short Answer to a Set of Queries Annexed to An Historical Account of the Rise, Progress, and Management of the General Hospital, or Infirmary, in the City of Bath.* Although this reply was intended to be a factual answer, the author could not avoid personal recriminations against Baylies; the answers were not always to the point. Baylies's final pamphlet was printed in London in 1759: *A Full Reply To a Pamphlet, entitled, A Short Answer to a Set of Queries Directed to The Principal Conductors of the General Hospital, or Infirmary, in the City of Bath.* In this he once more worked through his series of questions in rebuttal to the Governor's answers; inasmuch as he had the law on his side, for the Hospital had been loosely run, he got the better of the argument.

With this pamphlet the war ended. Both Lucas and Baylies withdrew from Bath and set up practice in London; Dr. Oliver and his group held the field. In 1761 Oliver retired from practice and resigned his position in the Hospital. By 1764 the three men who made Bath the most famous watering place in England were dead: Nash died in 1761 and Allen and Oliver in 1764. The old order changed but the progress of the city continued.

I have dwelt so long upon these medical battles because I believe they furnish an explanation for the position taken by Smollett and Anstey in their delineations of the physicians of Bath. The battle was hardly a tempest in a teapot, for the Board of Governors of the Hospital consisted of one hundred and seven persons, physicians and members of the upper classes of all England. And when Lucas and Baylies removed to London, one can be sure they were not silent upon what was going on at Bath.

When Smollett first went to Bath is not known but he could not have written the parts of *Roderick Random* set in that city without intimate acquaintance with the place and its visitors. In 1748 he was interested in the social scene and carried his hero through appropriate adventures. In this book he had nothing to do with the medical men.

But *Peregrine Pickle,* which he published in 1751, is another matter; in it the physicians of Bath are held up to ridicule. In the years between 1748 and 1751 Smollett evidently decided to exchange the profession of letters for one of medicine. On the strength of his three years as apprentice to Dr. John Gordon of Glasgow, he had served as surgeon on H.M.S. *Cumberland* in the expedition against Carthagena in 1741-42; he resigned from the navy in 1744 and set himself up in Westminster as a surgeon. Lacking a degree, he obtained that of Doctor of Medicine from Marischal College, Aberdeen, in June 1750; how much work he did for his degree I do not know but it could not have been

very much. If he ever tried to establish a practice in Bath, it must have been immediately upon receiving this degree, for he certainly would have been unwelcome after the publication of *Peregrine Pickle* in 1751. His chances for success in Bath were doubtful: he held a degree from a small Scottish university; whereas the ruling physicians had degrees from Oxford, Cambridge, and Leyden. He was a Scot and, as every reader of Boswell knows, the Scots were unpopular in England; and his own temperament was not one to ingratiate him with his fellow practitioners. Moreover, as is evident from his pamphlet of 1752, he took Cleland's part against the established clique of physicians. One or all of these factors are sufficient to account for his literally brutal attack in *Peregrine Pickle* on the profession in Bath. In this book, to make the matter as inclusive as possible, by a stratagem Smollett assembled all of the physicians of the city in one place to see a patient who not only had not summoned them but also would have no dealings with them. After making the learned gentlemen ridiculous by having them diagnose the case without having seen the patient, he made his gouty invalid suddenly regain the use of his limbs and beat the doctors severely with his crutch. The whole episode is so bitter that it must reflect a personal animosity toward his professional brethren of Bath.

Although in 1752 he had maintained in his essay that ordinary water, at least when used externally, was as good as the Bath-waters, for the sake of his health Smollett bathed in them and on each visit his health improved. Nevertheless, when he wrote *Humphrey Clinker,* which he published in 1771, the year of his death, he returned to the attack on the Bath physicians and added his doubts about the sanitary conditions of the Baths and the Bath-waters. It was a physician at home in whom Matthew Bramble had confidence and to whom he wrote for advice. "Let me know what you think of this half-witted doctor's impertinent, ridiculous, and absurd notion of my disorder." And when on the advice of Dr. Ch—[19] he went to bathe in the King's Bath, Bramble left in disgust.

> Two days ago, I went to the King's Bath, by the advice of our friend Ch—, in order to clear the strainer of the skin, for the benefit of a free perspiration; and the first object that saluted my eye was a child, full of scrofulous ulcers, carried in the arms of one of the guides, under the very noses of the bathers. I was so shocked at the sight that I retired immediately with indignation and disgust.[20]

But that was not all.

> After all, if the intention is no more than to wash the skin, I am convinced that simple element is more effectual than any water impregnated with salt and iron; which, being astringent, will certainly contract the pores, and leave a kind of crust upon the surface of the body. [This is an echo of Smollett's

essay of 1752.] But I am now as much afraid of drinking as of bathing; for, after a long conversation with the doctor, about the construction of the pump and the cistern, it is very far from being clear with me, that the patients in the pumproom don't swallow the scourings of the bathers. I can't help suspecting, that there is, or may be, some regurgitation from the bath into the cistern of the pump. In that case, what a delicate beverage is every day quaffed by the drinkers, medicated with sweat, and dirt, and dandriff, and the abominable discharges of various kinds, from twenty different diseased bodies, parboiling in the kettle below.[21]

Yet Smollett on his visit to Bath in 1765, his last visit to the city, drank these waters. "I myself drank the waters of Bath, and bathed, in diametrical opposition to the opinion of some physicians there settled, and found myself better every day, notwithstanding their unfavorable prognostic."[22] I cannot reconcile his practice with his attack in *Humphrey Clinker;* he may have found out about the pump after he left the city. In any case, even in matters concerning his own welfare, he had no faith in the Bath physicians.

In this attitude Smollett was joined by Christopher Anstey. Born in 1734, he was educated at King's College, Cambridge, from which he received his bachelor's degree in 1746. For a time he was a fellow of his college, and eventually, having succeeded to the family estates, lived a quiet life as a gentleman. As was the custom in society, he visited Bath many times and was intimately acquainted with the life there. In 1766 Anstey suddenly burst upon the literary and social world with his *New Bath Guide,* and, like Byron some years later, woke to find himself famous. The poem was immediately popular and went through edition after edition. Indeed Dodsley, the publisher, who bought the copyright when he printed the second edition, stated in 1777 that he had not made so much money on any book in an equivalent period of time. Dodsley, it will be remembered, was the fashionable publisher of the day.

The *New Bath Guide* is a series of poetical letters from members of the Blunderhead family of Northumberland in which they relate their life and adventures in Bath. In these letters Anstey took occasion to poke fun at the physicians of Bath. Upon his arrival in the city Simpkin Blunderhead, who had wind in his stomach and noises in his head, immediately called in a local doctor. Not only did the physician examine Simpkin but he also looked over the whole family; he finally decided that the head of the house was bilious and the women nervous. For Blunderhead he prescribed a course of medicine to be pursued for the next three weeks; after that he could drink the waters; and for Tabby, who had the vapors, he gave other medicine intended to restore her spirits and put her in a proper condition for bathing. As for Prudence, with whom he could find little the matter, she was to drink the waters

and then be taken for a rough horseback ride on a pillion, "for she wants thoroughly jumbling about."

Progress being slow, Blunderhead asked for a consultation of physicians.

> And I find there are doctors enough at this place,
> If you want to consult in a difficult case!

The doctors arrived and began a discussion among themselves about the colonies, the stamp act, Portugal, and anything except the patient. Irritated by all this lack of attention, Blunderhead turned on them:

> But since ye're come hither, do pray be so kind
> To write me down something that's good for the wind.
> No doubt ye are all of ye great politicians,
> But at present my bowels have need of physicians.[23]

By way of reply one of the consultants started an argument over the relative merits of the administrations of Newcastle and Bute. At last, having been in attendance for a proper length of time, a physician turned his attention to Simpkin:

> This case, which at first was a looseness,
> Is become a *Tenesmus,* and all we can do
> Is to give him a gentle cathartic or two;
> First get the phlegm that adheres to the *Plicae,*
> Then throw in a med'cine that's pretty and spicy;—
> A peppermint draught,—or a—. Come, let's be gone,
> We've another bad case to consider at one.[24]

As they were leaving the front door, Jenny from a second story window poured all their medicines upon the doctors' heads. This certainly was treating the medical men of the city with scant respect. Later in the poem Anstey attacked the physicians on the old score that they did not practice what they preached: they did not bathe in the waters.

> But, what is surprising, no mortal e'er view'd
> Any one of the physical gentlemen stew'd;
> Since the day that king Bladud first found out these bogs,
> And thought them so good for himself and his hogs,
> Not one of the faculty ever has try'd
> These excellent waters to cure his own hide;
> Tho' many a skilful and learned physician,
> With candour, good sense, and profound erudition,
> Obliges the world with the fruits of his brain,
> Their nature and hidden effects to explain.[25]

The year 1766 was not far removed from the medical squabbles of 1757-59; and the popularity of *The New Bath Guide,* which contained such passages, must indicate that public respect for the medical faculty

of Bath was at a low ebb. I cannot find that the physicians, either singly or as a body, ever replied to either Smollett or Anstey. Smollett's visits to Bath, as far as his splenetic nature would allow, apparently were pleasant; and Anstey moved to Bath in 1770 and for the rest of his days lived there the life of a comfortable gentleman. Probably the reason is to be found in the fact that as the century progressed the social life of the city loomed so much larger in the eyes of society than the medical aspects that the latter were pretty much ignored except by those who were ill and had need of help. The pump-room, which had been established for convenience in drinking the waters, still retained its practical function, but it was rather the center of mid-morning society. It was the emphasis that changed: the city of valetudinarians had become "the vortex of amusement."[20]

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2. ROBERT PEIRCE, *Bath Memoirs: or, Observations in Three and Forty Years Practice, at the Bath, what Cures Have been There Wrought, (both by Bathing and Drinking these Waters [)] by God's Blessing, on the Directions of Robert Peirce, Dr. in Physick, and Fellow of the College of Physicians in London, a constant Inhabitant in Bath, from the Year 1653, to this present Year 1697.* Bristol. 1697. P. 1.
3. J. M. KEMBLE, *Codex Diplomaticus Aevi Saxonici.* English Historical Society. London. 1839. P. 290.
4. See frontispiece. This picture is approximately the left hand third of Blake's engraving, which shows all of the pilgrims setting out on their journey to Canterbury. Blake's characterizations of the different pilgrims are worthy of study.
5. See Fig. 2. This picture shows the proximity of the church to the Roman bath.
6. THOMAS [usually Tobias] VENNER, *The Baths of Bath: Or, a necessarie compendious Treatise concerning the Nature, Use, and Efficacy of those famous hot Waters; published for the Benefit of all such as yearly, for their Health, resort to those Baths. With an Advertisement of the great Utility that cometh to Man's Body, by the taking of Physick in the Spring; inferred upon a Question moved, concerning the Frequency of Sickness, and Death of People, more in that Season than in any other. Whereunto is also annexed a Censure, concerning the Water of St. Vincent's Rocks, near Bristol; which begins to grow in great Request and Use against the Stone.* London. 1628. Reprinted in *The Harleian Miscellany.* London. 1809. Vol. II, p. 311 ff.
7. JOHN WOOD, *A Description of Bath.* Second Edition. London. 1748. Pp. 216-217.
8. VENNER, *loc. cit.*, p. 313.
9. ———, *loc. cit.*, p. 315.
10. ———, *loc. cit.*, p. 317.
11. For Pepys's visit to Bath see entries in his *Diary* under the dates of June 12-15, 1668.
12. The temperature of the springs varies from 117° to 120° Fahrenheit.
13. THOMAS GUIDOTT, *A Discourse of Bathe, and the Hot Waters There. Also, Some Enquiries into the nature of the Water of St. Vincent's Rock, near Bristol; and that of Castle-Cary. To which is added, A Century of Observations, more fully declaring the Nature, Property, and distinction of the Baths. With An Account of the Lives, and Character, of the Physicians of Bathe.* London. 1676. Pp. 112-113.

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15. TOBIAS SMOLLETT, M.D., *An Essay on the External Use of Water.* London. 1752. Pp. 40-43. The pages are incorrectly numbered at this point: page 43 should be page 41.
16. ———, *loc. cit.,* p. 29.
17. *Letters of Doctor Lucas and Doctor Oliver. Occasioned by a Physical Confederacy Discovered in Bath.* Bath. 1757. Pp. 19.
18. CHARLES LUCAS, M.D., *An Analysis of Dr. Rutty's Methodical Synopsis of Mineral Waters. Addressed, by Way of Appeal, to the Royal College of Physicians of London.* London. 1757.
19. Could this be Dr. Rice Charleton? He retained his position in the Hospital until 1781, and after the death of Dr. Oliver, became the leading physician of the city.
20. *The Works of Tobias Smollett.* New York. 1907. Vol. XI, p. 67.
21. *Ibid.,* p. 68.
22. LEWIS MELVILLE, *The Life and Letters of Tobias Smollett.* New York. 1927. P. 199.
23. [Christopher Anstey], *The New Bath Guide; or, Memoirs of the B-N-R-D Family. In a series of Poetical Epistles.* London. 1766.
24. Anstey, *loc. cit.,* Letter IV.
25. ———, *loc. cit.,* Letter VI.
26. *The New Bath Guide; or, Useful Pocket Companion for all Persons residing at or resorting to this Antient City.* Bath. 1801. P. 26. This little guide book is not to be confused with Anstey's poem.

John Milton Forswears Physic

By JAMES H. HANFORD

THE POET Milton's loss of sight is the most important, or at least the most dramatic, event in his life history. Long anticipated and resolutely fought against, the coming of total blindness induced in him an unexampled intensity of thought and feeling. Milton used his affliction as a spiritual discipline, rationalized it as evidence of divine favor, converted it into a weapon against enemies, made it the theme of immortal verse. His blind hero Samson gives voice to the full inward agony which Milton, speaking in his own person, always tempers or restrains:

> O dark, dark, dark, amid the blaze of noon,
> Irrecoverably dark total eclipse
> Without all hope of day![1]

In the Sonnets and the invocations scattered through *Paradise Lost* the protest is sometimes stilled in resignation:

> Doth God exact day-labor, light denied?
> I fondly ask. But Patience, to prevent
> That murmur, soon replies. . . .[2]

Or again it is pride in past achievement, sense of God's work done, the determination that day labor shall *not* be denied which furnishes him with sinews to endure.

> Yet I argue not
> Against Heaven's hand or will, nor bate a jot
> Of heart or hope, but still bear up and steer
> Right onward. What supports me, dost thou ask?
> The conscience, friend, to have lost them overplied
> In Liberty's defense, my noble task,
> Of which all Europe talks from side to side.[3]

The great prayer at the opening of *Paradise Lost,* Book III, represents the ultimate formula by which Milton transmuted suffering into positive and dynamic faith. Deprived of outward vision he is enabled to see more clearly in the world of the spirit:

> So much the rather thou, celestial Light,
> Shine inward, and the mind through all her powers

> Irradiate, there plant eyes, all mist from thence
> Purge and disperse, that I may see and tell
> Of things invisible to mortal sight.[4]

Beneath all this turmoil and fanfare of the soul, which other blind men lack the power to utter, lies a body of day-by-day experience and painful fact. We see some of it, in its nakedness, reflected in an earlier portion of Samson's speech:

> The vilest here excell me:
> They creep, yet see; I dark in light, exposed
> To daily fraud, contempt, abuse and wrong,
> Within doors, or without, still as a fool,
> In power of others, never in my own.

A very different kind of record, no less eloquent in its way, is to be found in the preserved manuscript of a great work of learning, the *De Doctrina Christiana,* which Milton heroically completed after the loss of his eyesight.[5] The detailed cross references, the alterations and additions in the text, written by as many as five different amanuenses, show how skillfully and efficiently he had learned to work with the hands and eyes of others. Further evidence, by the aid of which we can reconstruct the story of his physical ills and of his ways of meeting them, is to be found in his correspondence, in his controversial pamphlets, and in the memoirs written by his friends and relatives.

Modern opinion is, as we shall see, uncertain regarding the exact nature of Milton's disease. In his own time, the trouble was confidently diagnosed as amaurosis or "gutta serena," an affection of the optic nerve. The humoral pathology which then dominated scientific thought explained this disease roughly as follows. A redundant humor in the brain flowed down into the optic nerve and congregated there, preventing the "spirits of sight" from finding access to the eyeball. This humor was itself the "gutta serena" or clear drop—clear because it could not be seen outwardly. There is an implied contrast with "gutta obscura," cataract, a correlative disease in which the drop remains in its liquid state until it has passed through the nerve or otherwise found its way into the empty space which was still mistakenly supposed to exist between the cornea and the crystalline lens. This dark drop was, of course, the cataract, visible as a clouding of the eye.[6] Milton himself was certainly aware of the relation between the two types of blindness and perhaps he had some doubt as to whether his trouble was really amaurosis and not cataract in some less common form. At any rate he gives the alternative explanations when referring to his loss of sight in the passage already cited from *Paradise Lost:*

> So thick a drop serene hath quenched their orbs,
> Or dim suffusion veiled.[7]

Suffusio or *suffusio nigra* was another technical term for cataract, so used since ancient times. But it is characteristic of Milton to put things in this way. His habit of mind made him as tentative in scientific matters as he was dogmatic in politics, morals, and religion. If he had had any serious thought that he had cataract, he might perhaps have submitted to an operation which there were plenty of doctors ready enough to perform.

From the point of view of medical history the most interesting thing connected with Milton's blindness and his physical health generally is his own account of his symptoms and the less complete evidence of the character and supposed effects of the remedies employed. His blindness became total in 1652 and he seems at that time or a little afterwards to have given up hope of recovery. Two years later, however, a Greek friend domiciled in Paris, Leonard Philaras by name, urged him to resort again to medical aid. With some reluctance and little faith he did so, writing out a careful statement of the facts, to be transmitted by Philaras to a French physician whom it has been possible at last to identify. The letter is a model patient's account of his own symptoms and as such may rank among the classic descriptions of disease. Milton was interested impersonally as well as personally in medical matters. He had read deeply on the subject, presumably consulted no end of doctors, and associated with some of the men who were making the new science—if not directly with his great contemporaries, Harvey, Glisson, and Sydenham, at least with men belonging to their circle. He uses no technical terms in the letter to Philaras, but his meaning is conveyed with scientific precision. Here are the pertinent sections of the statement, translated from the Latin.[8]

As you have, therefore, suggested to me that I should not give up all hope of recovering my sight, and told me that you have a friend and close companion in the Paris physician, Thevenot, especially distinguished as an oculist, and that you will consult him about my eyes if I furnish you with means for his diagnosis of the causes and symptoms, I will do what you advise, that I may not haply seem to refuse any chance of help offered me providentially.

It is ten years, I think, more or less, since I felt my sight getting weak and dull, and at the same time my viscera generally out of sorts. In the morning, if I began, as usual, to read anything, I felt my eyes at once thoroughly pained and shrinking from the act of reading, but refreshed after moderate bodily exercise. If I looked at a lit candle, a kind of iris seemed to snatch it from me. Not very long after, a darkness coming over the left part of the my left eye (for that eye became clouded some years before the other) removed from my vision all objects situated on that side. Objects in front also, if I chanced to close the right eye, seemed smaller. The other eye also failing perceptibly and gradually through a period of three years, I observed, some months before my sight was wholly gone, that objects I looked at without myself moving seemed

all to swim, now to the right, now to the left. Inveterate mists now seem to have settled in my forehead and temples, which weigh me down and depress me with a kind of sleepy heaviness, especially from meal-time to evening; so that not seldom there comes into my mind the description of the Salmydessian seer, Phineus, in the *Argonautics:*

> All round him then there grew
> A purple thickness; and he thought the Earth
> Whirling beneath his feet, and so he sank,
> Speechless at length, into a feeble sleep.

But I should not forget to mention that, while yet a little sight remained, when first I lay down in bed, and turned myself to either side, there used to shine out a copious glittering light from my shut eyes; then that, as my sight grew less from day to day, colours proportionally duller would burst from them, as with a kind of force and audible shot from within; but that now, as if the sense of lucency were extinct, it is a mere blackness, or a blackness dashed, and as it were inwoven, with an ashy grey, that is wont to pour itself forth. Yet the darkness which is perpetually before me, by night as well as by day, seems always nearer to a whitish than to a blackish, and such that, when the eye rolls itself, there is admitted, as through a small chink, a certain little trifle of light.

And so, whatever ray of hope also there may be for me from your famous physician, all the same, as in a case quite incurable, I prepare and compose myself accordingly; and my frequent thought is that, since many days of darkness, as the Wise Man warns us, are destined for everyone, my darkness hitherto, by the singular kindness of God, amid rest and studies, and the voices and greetings of friends, has been much easier to bear than that deathly one.

This should, one would think, when taken in connection with the general facts of Milton's medical history—his headaches and eye-strain from boyhood on, his indigestion, his death from gout—be enough. But there are evidently too many complicating possibilities to allow the modern expert, with nothing but his academic reputation at stake, to arrive at anything but a guesswork conclusion as to the causes of Milton's blindness. The layman who reads the picturesque variety of theories which have been given in the medical journals[9] thanks heaven that the diagnosis of ocular diseases is no longer dependent on what the patient can tell about himself. Glaucoma, myopia, detachment of the retina, or these combined, have been the leading explanations, but congenital syphilis and brain tumor have also been suggested. It is probably useless for the biographer to go on asking the ophthalmologist what Milton's loss of sight was really due to. We turn therefore from theory back to reasonably certain fact.

It is not surprising that nothing has hitherto been said about the Dr. Thevenot for whose attention this material was prepared. There is no person of that name in the annals of seventeenth century medicine at

LES

ŒVVRES

DE

MAISTRE FRANCOIS

THEVENIN,

CHIRVRGIEN ORDINAIRE

DV ROY, ET IVRE' A PARIS.

Contenant vn Traité des Operations de Chirurgie, vn Traité des Tumeurs, & vn Dictionaire Etymologique de mots Grecs ſeruans à la Medecine.

Recüeillies par Maiſtre GVILLAVME PARTHON, Chirurgien Oculiſte du Roy.

Dediées à la tres-Illuſtre, tres-Ancienne, & tres-Celebre Faculté de Medecine de Paris.

A PARIS,

Chez P. ROCOLET, Impr. & Libraire ordinaire du Roy, & de la Maiſon de Ville; Au Palais en la Gallerie des Priſonniers, aux Armes du Roy & de la Ville.

M. DC. LVIII.

Auec Priuilege du Roy, & Approbations des Medecins & Chirurgiens de Paris.

FIG. 1. Title page of the first edition of Thevenin's work, Paris, 1658. (Courtesy of the Army Medical Library.)

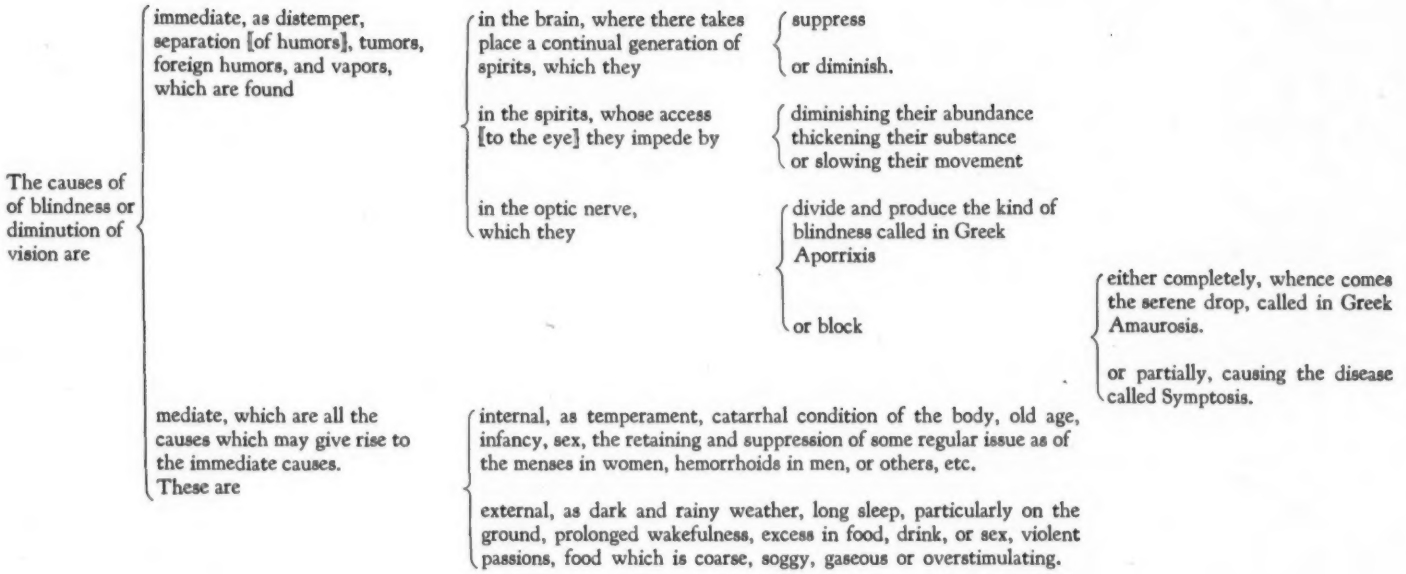
The causes of of blindness or diminution of vision are
immediate, as distemper, separation [of humors], tumors, foreign humors, and vapors, which are found
in the brain, where there takes place a continual generation of spirits, which they
suppress
or diminish.
in the spirits, whose access [to the eye] they impede by
diminishing their abundance
thickening their substance
or slowing their movement
in the optic nerve, which they
divide and produce the kind of blindness called in Greek Aporrixis
or block
either completely, whence comes the serene drop, called in Greek Amaurosis.
or partially, causing the disease called Symptosis.
mediate, which are all the causes which may give rise to the immediate causes. These are
internal, as temperament, catarrhal condition of the body, old age, infancy, sex, the retaining and suppression of some regular issue as of the menses in women, hemorrhoids in men, or others, etc.
external, as dark and rainy weather, long sleep, particularly on the ground, prolonged wakefulness, excess in food, drink, or sex, violent passions, food which is coarse, soggy, gaseous or overstimulating.

FIG. 2. Table showing the causes of Amaurosis from *Les Oeuvres de Maistre François Thevenin*, Paris, 1658.

all answering to the requirements. Milton or the early printers of his correspondence must simply have got it wrong. The man is almost certainly Dr. François Thevenin,[10] a distinguished Parisian surgeon and ophthalmologist, the exact individual to whom a well-informed continental would have referred an Englishman of that time as a final authority and last medical hope in an apparently desperate case. This Dr. Thevenin was royal oculist at the court of Louis XIV, where Philaras was resident as an envoy from the Duke of Parma. He died in 1656 leaving a manuscript work on surgery which was eagerly seized upon by the profession. Guillaume Parthon, himself court oculist and nephew and heir to the more famous Thevenin, had the official copy, but others had apparently got access to it or taken down its substance from the master's lectures. Parthon says he would gladly have kept it for the private use of himself and his friends but, learning that it might be published surreptitiously and imperfectly, he decided to give it to the world. He did so in a handsome folio issued in 1658 (Fig. 1),[11] with a dedicatory letter to the Deans and Doctors Regent of the Medical Faculty at Paris. The work was important enough to be reprinted in quarto in 1669.[12] The Army Medical Library has, *mirabile dictu,* copies of both editions.

Though the work is, as the title implies, a general treatise on surgery it includes an extensive analytical table on the author's specialty—a scheme of diseases of the eye, their varieties, causes and symptoms. One section of this is devoted to the causes of blindness and weakening of vision; specifically of amaurosis, cataract as an operable disease having been more fully treated in the body of the work. As giving a conspectus of Thevenin's understanding of Milton's trouble—the sort of lore he would have expounded with due impressiveness to Philaras—this table is worth reproducing in English translation (Fig. 2).

There is no evidence that Milton ever came under the actual care of Thevenin. It was just as well, for that worthy could have done nothing but add to the punishment which he had already undergone in vain. The domestic verdict in Milton's later life was that physic had actually done him more harm than good. We have this from two reliable sources. Edward Phillips, Milton's nephew and an intimate of his home, writes in his memoir of the poet: "It is most certainly known that his sight, what with his continual study, his being subject to the headache, and his perpetual tampering with physic to preserve it, had been decaying for above a dozen years before."[13] The unknown writer of another contemporary biography, a man who evidently knew Milton well, gives more specific information: "And the issues and setons, made use of to save or retrieve that [i.e., the sight of his left eye], were thought, by

drawing away the spirits which should have supplied the optic vessels, to have hastened the loss of the other."[14]

This last statement may well reflect the advanced opinion of some of Milton's friends among the new men of science. If the Anonymous Biographer was indeed, as some have believed, Dr. Nathan Paget, Milton's own physician in his later years, he may here be giving the substance of a professional opinion of his own. Paget was one of the group that collaborated with Glisson in the preparation of his classic study of rickets.[15] He had been a true counsellor of Milton's in matters other than merely medical from a period at least as early as 1662.[16] He must have had mental reservations about the practices of his colleagues and would naturally have told his learned but helpless friend a thing or two.

It is evident from Milton's own writings that he was both relieved in mind and benefited in health by the cessation of attempts to save his eyes. The sad state to which he had been brought comes out clearly in his references to the tribulations which attended his writing of the *Defense of the English People* against Salmasius, the "noble task" in the performance of which, during the period immediately preceding his total blindness, he persisted against the warnings of his physicians. His ills were obviously not a matter of eyesight alone. He tells us in the *Second Defense* that his health was unfavorable when the Council of State, in January, 1650, ordered him to answer Salmasius's attack on the Commonwealth of England, and that this, as well as the prospective loss of his remaining eye, might well have deterred him from undertaking so great a burden.[17] In the first *Defense* itself, which he was at work on early in the year, he speaks as follows of the difficulties under which he labored: "I know not what others may say, but for myself I can boldly declare that I had neither words nor arguments long to seek for the defense of so good a cause, had I but found leisure, and such health as could bear the toil of writing. Yet as I still possess but slender strength, I am forced to write by piecemeal, and break off every hour."[18]

Two years later the situation was as bad or worse. On November 7, 1651, Milton declined to receive a foreign visitor, Mylius, "partly because of business with which at present I am much distracted, and partly because of ill health,"[19] and in a letter written to the same correspondent the following January[20] he says that bad health, "now almost a perpetual enemy," had made it necessary for him to move from his official residence in Whitehall. Mylius himself says in his reply that he is sick himself to hear how Milton is suffering from headaches and inflammation of the eyes.[21]

After his blindness became complete Milton could apparently for some time do little beside carry the correspondence forced upon him by his office as Secretary for Foreign Tongues. He had been personally

attacked from abroad in the summer of 1652, and every instinct must have urged him to make an immediate reply. The writing of the answer, *Defensio Secunda,* was, however, delayed till some time after September of the following year. The reason Milton gives for being thus able in 1653-54 to take up the pen against his enemies is that he was "somewhat re-established in health by its being in part restored and in part desperate."[22] This fits perfectly with the reluctance expressed in the letter to Philaras, written in 1654, to embark on another course of treatment. The loss of sight, once it had been accepted, was less perturbing than vain hope and the continual ministrations of the doctor.

Not much imagination is required, in the light of what we can read of the treatment for cases like Milton's, to picture the effect of these ministrations on a temperamental person, overwhelmed with work and responsibility and none too comfortable in his home. The operation of setoning, to which he had been subjected and which was standard for inveterate headaches and severe inflammation of the eyes, is thus described by Thevenin.

> The patient is seated on a stool. He bends his head back a little so that the skin and fleshy panicle may be loosened. Then an assistant, taking the skin with both hands just below the hair, either vertically or horizontally, lifts and pulls it up, and the surgeon with the seton pincers, formed like a waffle iron, broad at the ends and pierced, pinches the skin hard to deaden a little for the patient the pain of the burning, then passes through the holes in the pincers a hot cautery, having a diamond point; and when he draws out the cautery he passes with the needle through the same holes a four or five ply cotton thread dipped in white of egg and rose oil and puts a compress over it moistened with oxecrat and charged with the same remedy, continuing this till the suppuration is made and the inflammation past.[23]

It is plausible to suppose that this was but one of many pretty experiments which the wretched poet had tried on him. The variety of possibilities was endless. William Vaughn says amaurosis is incurable but, the humor being yet unsettled, says that various remedies should be tried: "purgation with pils of Iods, with Trochisks of Alhandall, Hydropticks, Mascatoria." Violent errhines are "not to be neglected." Also the brain must be dried with a cap, cauteries must be applied at the root of the ear, and "beware you forget not to use cupping glasses." When the eye is exasperated anoint it with: fresh butter, woman's milk, and a special kind of mucilage "drawn in the decoction of Mallowes, Holy-hockes, Violets," etc.[24] Richard Banister, most intriguing of English writers on diseases of the eyes, prescribes blood-letting, cupping, a caustic applied to the back of the head, bags and coifs filled with all manner of fearful and wonderful concoctions. He is opposed to the use of salves.[25] There is obviously some method in all this madness. The

humors must be dried or thinned out and drawn off through various outlets. External applications are, in this disease, for temporary relief only.

If cataract was ever thought of in Milton's case the initial treatment would have been much the same. The classic program as given by Celsus[26] was first to attempt to disperse it, failing this to wait until it matured and then to operate. "It is useful [in the early stages] to let blood from the forehead or nostrils, to cauterize the temporal blood vessels, to bring out phlegm by gargling, to inhale smoke, to anoint the eyes with acrid medicaments." The moderns eliminated little of the regimen but embellished it rather, from the accumulated wisdom of a thousand years.

It must be remembered in this connection that Milton was not limited to the remedies prescribed by doctors. In his own school he taught the elements of medicine as a part of practical education[27] and, being a humanist, he went to the Greek and Latin classics and to the great continental writers for his basic knowledge, but he did not rule out the use of modern compendia as well. The "perpetual tampering with physic" which Phillips mentions may well have included a good deal of self-doctoring from various sources. Are we not permitted to believe that the general ill health of which there is so much complaint throughout his middle life was aggravated by such practices? Knowledge, of the kind available in those days, is a dangerous thing, especially if unchecked by the daily experience which must often have made the practice of most physicians more sensible than their lore.

But when Milton gave up experimenting with medicine, he gave it up. The biographer, John Aubrey, speaking of his habits in his later years, says that he seldom took any physic except manna, then widely used as a laxative, but was careful about his exercise and diet: "After dinner he used to walk three or four hours at a time; he always had a garden where he lived; went to bed about nine; temperate man; rarely drank between meals; extreme pleasant in his conversation, and at dinner, supper, etc." Aubrey adds that Milton's health, save for the gout, was good and that he would be cheerful even in his gout fits and sing.[28] He was still looked after in a friendly way by Paget and he must have had some medical attention in his last illness. The indefatigable Aubrey, always on the lookout for authoritative details, was able some years after his death to set down the following: "He died of a fever at his house on Jewin street about the 64th year of his age. Gout struck in the ninth or tenth of November, as appears by his apothecary's book." This must have been some sort of record kept by the pharmaceutical chemist, who was permitted at that time to prescribe; its exact nature remains a mystery.

All in all, Milton came honestly by the knowledge of sickness and of medical science with which he interlards both his poetry and prose.[29] Also, it may fairly be said that he had earned the right to abstain within prudent limits from drugs and doctors. His conception of the ills which flesh is heir to is thus imaginatively embodied in Adam's vision of the consequences of his sin in *Paradise Lost,* Book XI:[30]

> Immediately a place
> Before his eyes appeared, sad, noisome, dark;
> A lazar-house it seemed, wherein were laid
> Numbers of all diseased, all maladies
> Of ghastly spasm, or racking torture, qualms
> Of heart-sick agony, all feverous kinds,
> Convulsions, epilepsies, fierce catarrhs,
> Intestine stone and ulcer, colic pangs,
> Demoniac phrenzy, moping melancholy,
> And moon-struck madness, pining atrophy,
> Marasmus, and wide-wasting pestilence,
> Dropsies and asthmas, and joint-racking rheums.
> Dire was the tossing, deep the groans; Despair
> Tended the sick, busiest from couch to couch;
> And over them triumphant Death his dart
> Shook, but delayed to strike, though oft invoked
> With vows, as their chief good and final hope.

The only refuge from this horror which Milton or anybody else ever found, before modern science, prompted by humanity, learned how to mitigate it, was stoical endurance and religious hope.

REFERENCES

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2. Sonnet XIX, 7-9.
3. Sonnet XXII, 9-12.
4. *Paradise Lost,* III, 51-55.
5. See the facsimile pages in S. L. Sotheby, *Ramblings in Elucidation of the Autograph of Milton,* London, 1859, plates XX-XXII.
6. The *loci classici* are in Hippocrates, Dioscorides, Galen, and Celsus, but none of these ancient writers defines amaurosis beyond saying that it is the form of blindness of which there is no visible outward sign—the disease, as some later humorist put it, in which "the patient sees nothing and the physician also sees nothing." Celsus goes into detail about cataract and describes the operation.
7. *Paradise Lost,* III, 25-26.
8. Translation by David Masson. *The Works of John Milton,* New York, Columbia University Press, 1931-38, XII, 66-71. Reprinted with permission of the Columbia University Press.
9. The most competent discussions are by Arnold Sorsby, "On the Nature of Milton's Blindness," *The British Journal of Ophthalmology,* 14: 339-354 (July, 1930); and W. H. Wilmer, "The Blindness of Milton," *The Bulletin of the Institute for the History of Medicine,* 1: 85-106 (April, 1933). Eleanor G. Brown's *Milton's Blindness,* New York, 1934, studies the subject from every point of view. The case for syphilis is in Denis Saurat, *Milton, Man and Thinker,* New

York, 1925, pp. 329-341, that for brain tumor in *The British Medical Journal*, 2: 1275 (December 19, 1936).

10. AUGUST HIRSCH. *Biographisches Lexikon der hervorragenden Aertze*, 1884-88, vol. 5, p. 648. Thevenin's work is said by Hirsch to be based in general on Paré.
11. The facts regarding Parthon's relationship to Thevenin and the history of the MS. are given in the letter dedicatory. The etymological dictionary of Greek medical terms, which follows the Tables with separate pagination, is a truly monumental work occupying over 200 pages. Some of the definitions are "drawn and translated from those of Monsieur Desgorris" (better known as Joannes Gorraeus). The transliterations from the Greek into the Roman alphabet are made according to the sounds of Modern rather than Classic Greek. This fact suggests that Philaras himself may have had a hand in preparing the dictionary.
12. *Les Oeuvres de Maistre François Thevenin*. . . . Nouvelle edition, Revue et corrigée, Paris, D. Faucault, 1669.
13. Text modernized from Helen Darbishire, *The Early Lives of Milton*, London, 1932, p. 72.
14. *Ibid.*, p. 28.
15. See *Dictionary of National Biography* under Glisson, Francis.
16. Paget found for Milton among his own relatives the third wife who was the nurse and companion of his old age. David Masson, *Life of Milton*, London, 1859-94, VI, 473-475.
17. Columbia *Milton* VIII, 69.
18. *Ibid.*, VII, 11.
19. *Ibid.*, XII, 349.
20. *Ibid.*, XII, 353-354.
21. *Ibid.*, XVIII, 265.
22. *Ibid.*, IX, 13-15.
23. Thevenin, *Oeuvres*, 1658, p. 135.
24. *Two Treatises of Approved Medicines for All Diseases of the Eyes*, 26-27, in William Vaughan, *Directions for Health*, seventh edition, London, 1633.
25. *A Treatise of One Hundred and Thirteen Diseases of the Eyes and Eyelids*, second edition, London, 1662, fol. 178.
26. *De Medicina*, VI, 6, 34-36 and VII, 7, 14.
27. *Of Education*, Columbia *Milton*, IV, 283.
28. Text modernized from Darbishire, p. 6.
29. See Kester Svendsen, "Milton and Medical Lore," *Bulletin of the History of Medicine*, XIII (1943), 158-184, and an unpublished study by Miss Thelma Ingles in the Library of Western Reserve University.
30. Lines 477-492. Lazar-house = lazaretto or pest-house, the prevailing type of public hospital in old days.

The Plague in Literature

By Thomas E. Keys

"This day, much against my will, I did in Drury Lane see two or three houses marked with a red cross upon the doors, and 'Lord have mercy upon us' writ there; which was a sad sight to me, being the first of the kind that, to my remembrance, I ever saw." Samuel Pepys, *Diary,* June 7, 1665.

Stories of medicine as related in the literary annals of the world have sometimes more of the flavor of reality to them than have the more expert descriptions of learned physicians. Rarely does the physician himself have the literary skill to record his observations in such a way as to make them live for posterity.

Men of letters have many advantages over physicians. They can embroider their stories to make the final result more interesting. They know their language constructions and have a wider and more flexible vocabulary. They can also make their descriptions dramatic. For instance, they may time their descriptions at crucial moments. A good example is found in Thucydides in his description of the "Pestilence at Athens,"[1]* a part of his *History of the Peloponnesian War.*

After the superb "Funeral Oration" of Pericles in which Thucydides tells of the many glories of Athens and speaks in general of its development, he proceeds at once to the plague which took place during the second year of the war (430 B.C.). The contrast is overwhelming. Here the author turns from a description of a pleasant picture to a frightful picture. The result is one of the most remarkable descriptions of the plague[2] on record. Indeed, Ralph Major[3] says: "The account of the plague of Athens written by Thucydides is one of the most vivid and terrible pieces of writing in all literature." Many years later Lucretius (c.98-55 B.C.) converted the record of Thucydides into Latin hexameter verse in his great poem, "On the Nature of Things."[4] And it is safe to say that all later accounts of the plague of Athens are built around the story of Thucydides.

Good literary descriptions of medical subjects should also be clear

* A. J. Brock suggests that the Athens plague probably was not bubonic but typhus. According to Ralph Major (ref. 3, p. 16) Francis Adams believed this plague was bubonic and Heinrich Haeser believed it to be typhus. Major compromises and says that it probably was both bubonic and typhus.

FIG. 1. Detail from Tintoretto's "St. Roch healing the plague stricken."
In the Church of San Rocco, Venice.

In the Church of San Rocco, Venice.

in their meaning. As compared to a physician's description, a literary artist's rendering is analogous to that of a great painter. During the Great Plague of London (1665) the Royal College of Physicians issued at the King's command a book of *Directions for the Care of the Plague*.[5] In this very instructive book is found the means for the diagnosis of people suffering from the Plague of that year. This is in the form of *Directions for the Searchers* as follows:

1. They are to take notice whether there be any Swellings, Risings, or Botch under the Ear, about the Neck, on either Side, or under the Arm-pits of either Side, or the Groins, and of its hardness, and whether broken or unbroken.

2. Whether there be any Blains which may rise in any part of the Body in the form of a Blister, much bigger than the Small Pox, of a Straw-colour or livid colour, which latter is the worser; either of them hath a reddish Circuit, something swollen round about it, which Circuit remains after the Blister is broken, encompassing the Sore.

3. Whether there be any Carbuncle, which is something like the Blain, but more fiery and corrosive, easily eating deep into the flesh, and sometimes having a black Crust upon it, but always compassed about with a very fiery red (or livid) flat and hard Tumour, about a finger-breadth more or less: this and the Blain may appear in any part of the Body.

4. Whether there be any Tokens, which are spots arising upon the skin, chiefly about the Breast and Back, but sometimes also in other parts; their colour is something various, sometimes more reddish, sometimes inclining a little toward a faint blue, and sometimes brownish mixt with blue; the red ones have often a purple Circle about them; the brownish, a reddish.

5. Whether the Neck and other Limbs are rigid or stiff, or more flexible and limber than in other dead Bodies.

A careful examination of Tintoretto's famous plague painting,[6] possibly seventy-five years before the London epidemic (fig. 1), will show all of these diagnostic signs, but with a transcending art matched only by the greatest writers.

What follows is an examination of a few of the outstanding literary descriptions of the plague from the standpoint of composition, background, the setting of the plague in the story the author is telling. Just as Tintoretto and other famous artists have perpetuated for all time in their art the visual picture of the Plague—so too have important literary figures left us with vivid descriptions and these descriptions tell us more about the plague and its social implications than do the several accounts by physicians.

Before proceeding further let us prepare ourselves by a brief glimpse into the history and significance of the plague, especially the bubonic plague.

Apparently the first historical notice of the bubonic plague is con-

tained in a surviving fragment of the works of Rufus of Ephesus[7] and he was the first to call attention to buboes. Rufus practiced about A.D. 98-117 and some of his works have been preserved in a collection by Oribasius, who was physician to the Emperior Julian two and a half centuries later. According to Rufus: "The buboes called pestilential are most fatal and acute, especially those that are seen occurring about Libya, Egypt, and Syria . . . Dioscorides and Posidonius make much mention of them in the plague, which occurred in their time in Libya, Egypt, and Syria. They say that it was accompanied by acute fever, pain and prostration of the whole body, delirium and the appearance of large and hard buboes . . ."[8]

Procopius[9] (A.D. 490-560) described the plague of Justinian which apparently originated in Pelusium and which spread through Egypt in one direction and to Palestine in another, and attacked the whole civilized world. Procopius said that according to the physicians the source of contagion lay in the buboes. This great plague passed through Constantinople. It appeared in Gaul in 546. It had reached Italy in 543, but returned in 565 and so depopulated the country that the Lombards made their conquest with little opposition. According to Creighton this is the plague which brought on the dark ages. "No single thing stands out more clearly as the stroke of fate in bringing the ancient civilization to an end than the vast depopulation and solitude made by the plague which came with the corn ships from Egypt to Byzantium in 543."[10] Maycock[11] also notices the importance of this plague when he compares the later disruption of medieval Europe by the Black Death with the earlier decline of the Roman Empire in that in both cases there was (1) the vigorous influence of Greek thought making for a change in the philosophy and religious conceptions, (2) the Teutons were the aggressors, and (3) a deadly pestilence came in from the East.

Between the plague of Justinian and the Black Death there occurred several pandemics. As mentioned by Garrison[12] these included leprosy, St. Anthony's fire (erysipelas, 857), scurvy (1218), epidemic chorea, and sweating sickness.

Of all the pandemics in the history of the world, however, none has influenced the fate of civilization as that of the Black Death, a great cycle of epidemics. According to Castiglioni[13] this pestilence began in the interior of Asia about 1333. According to Payne[7] one eyewitness, Gabriel de Mussis, an Italian lawyer, accompanied the march of the plague from the Crimea to Genoa, where with a few survivors he landed at the end of 1347. The plague spread through Italy and in 1348 Florence alone lost more than 100,000 people.[14] This dreadful disease after apparently subsiding in a few years broke out anew at intervals until the end of the seventeenth century. Even in the eighteenth century

occurred great destruction and in 1720 the Plague broke out in Marseilles and killed from 40,000 to 60,000 persons. The loss of life attributed to the bubonic plague was overwhelming. Tobey[15] writes: "The Black Death was bubonic plague and it was about three times as severe in actual mortality as was the frightful influenza epidemic of the World War period. The influenza of 1918 is estimated to have caused 20,000,000 deaths whereas the Black Death from 1348 to 1720 removed more than 50,000,000 people." According to Nohl[16] Pope Clement VI made statistical investigation of the number of fatalities from the plague and found the number of deaths for the whole world to be 42,836,486.

It should be kept in mind, that although no epidemic of bubonic plague is current on any of the fighting fronts at present, plague is still with us. The last bubonic plague epidemic of global significance, as mentioned by Strong[17] was supposed to have originated in China in 1894. It reached India in 1896. From India it spread to Singapore, the Philippines, Arabia, Persia, Turkey, Egypt and West Africa, later to Russia and through parts of Europe to the coasts of North and South America, Central America, the West Indies and Mexico and from these to our gulf coast. In 1900 San Francisco was visited, and in 1907 Seattle became infected and plague rats are still found there. Plague is now chiefly a disease of squirrels but infected animals are spreading over many Western states.

During recent years outbreaks of the bubonic plague have been observed in the United States in California, Louisiana, Texas, and Florida. Even though the causes of plague and its methods of spreading are well known, it still is a devastating disease. India is still a great epidemic region for the plague and as reported by Strong during the last 20 years there have been about 10,000,000 deaths. Because of the taking of proper health measures the mortality has dropped considerably. Thus while from 1934-1935, 52,000 died of the plague, by 1938 the mortality had fallen under 7,000 in India.

But to return to our literary descriptions of the plague. This paper will, for the most part, limit its discussion to the Black Death, also called oriental plague or pest.

Bubonic plague[17] may be defined as an "acute, febrile, infectious disease characterized by inflammation of the lymphatics, with the production of buboes, septicaemia, primary or secondary pneumonia, petechial and diffuse haemorrhages, and a high mortality." Bubonic plague is caused by a bacterium of the hemorrhagic septicemia group, Pasteurella pestis, and is most commonly transmitted to man through the agency of fleas, rat or human.

Fracastorius[18] in 1546 defined this disease as a "fever which contains in itself the germs of death dealing contagion." He believed that putre-

faction was not an essential characteristic of the plague and that plague was spread, not by a tainted condition of the air but by actual passing of the contagion from one person to another. In this he noted that the plague attacked the populace more than the nobility. The nobility on account of their wealth could take greater precautions against contagion.

Guy de Chauliac was an eyewitness to the plague in 1348 and his description, an exception to most accounts by physicians, is good not only for its accurate account of the symptomatology of the disease but also for his portrayal of its futility of conquest and the despair that accompanied it. The following is a translation of Guy de Chauliac's description by Anna M. Campbell.[19] Miss Campbell condensed some of Guy's verbosity, yet preserved the author's phraseology.

The great mortality appeared at Avignon in January, 1348, when I was in the service of Pope Clement VI. It was of two kinds. The first lasted two months, with continued fever and spitting of blood, and people died of it in three days. The second was all the rest of the time, also with continuous fever, and with tumors in the external parts, chiefly the armpits and groin; and people died in five days. It was so contagious, especially that accompanied by spitting of blood, that not only by staying together, but even by looking at one another, people caught it, with the result that men died without attendants and were buried without priests. The father did not visit his son, nor the son his father. Charity was dead and hope crushed.

I call it great, because it covered the whole world, or lacked little of doing so. For it began in the East, and thus casting its darts against the world, passed through our region toward the West. It was so great that it left scarcely a fourth part of the people. And I say that it was such that its like has never been heard tell of before; of the pestilences in the past that we read of, none was so great as this. For those covered only one region, this the whole world; those could be treated in some way, this in none.

For this reason it was useless and shameful for the doctors, the more so as they dared not visit the sick, for fear of being infected. And when they did visit them, they did hardly anything for them, and were paid nothing; for all the sick died, except some few at the last who escaped, the buboes being ripened.

Many were in doubt about the cause of this great mortality. In some places, they thought that the Jews had poisoned the world: and so they killed them. In others, that it was the poor deformed: and they drove them out. In others, that it was the nobles: and they feared to go abroad. Finally they reached the point where they kept guards in the cities and villages, and permitted the entry of no one who was not well known. And if powders or unguents were found on anyone the owners, for fear that they were poisons, were forced to swallow them. [Here follow a discussion of what the author considers the true causes, and a résumé of methods of prevention and cure that were employed.]

And I, to avoid infamy, dared not absent myself, but with continual fear preserved myself as best I could by means of the above-mentioned remedies. Notwithstanding this, toward the end of the mortality I fell into a continuous

fever, with a tumor in the groin. I was ill for nearly six weeks, and was in such great danger that all my associates thought that I would die; but the tumor being ripened, and treated as I have said, I escaped by the will of God.

It is to Boccaccio, however, that we owe the greatest homage, for his description of the plague is masterful. This was the pandemic which as has already been mentioned took the lives of more than 100,000 Florentines by the spring of 1348. And the year 1348 according to Maycock[11] marks the nearest approach to a definite break in the continuity of history that has ever occurred. As Creighton has shown[10] nothing marks so definitely the emergence of Europe from the Middle Ages as the depopulation and social upheaval made by the plague.

Major[20] presents evidence to show that Boccaccio was not an eyewitness to the plague at Florence (since he lived in Naples in 1348) and that his description is based on hearsay. This may be true—yet Boccaccio must have known a lot about the plague and his father is said to have died from it.[15] Probably as mentioned earlier the literary powers of this author made for a more vivid description than one based on fact alone. The ghastliness of the plague which, as we shall see, prefaces his *Decameron,* is a great contrast to his delightful stories. This ability to deal in contrasts was also effectively used by Thucydides as mentioned earlier in this paper. Manzoni followed this technique in his romance, *I Promessi Sposi,* and Edgar Allen Poe in his well known story of the plague, *The Masque of the Red Death,*[21] employs the same tactics.

It is beside the point of this brief article to comment much more on the reality of fiction as applied to descriptions of the plague. However, John P. Marquand in his introduction to *The Late George Apley*[22] says: "The truth is, if fiction is to give a sense of reality, the writer must create characters and circumstances which would assume unbelievable distortions if they appeared outside the covers of a book. In short, it is my humble opinion that fiction, to give an illusion of fact, can never employ fact successfully."

There is another reason, perhaps, which contributes to make Boccaccio an effective narrator of the plague. This was because Boccaccio suffered from scabies or as he put it "scabies sicca."[23] Other physicians believed that Boccaccio was not ill with scabies but that he probably suffered from diabetes[24] or, perhaps, inflammation of the liver.[25] No matter which of the above diseases Boccaccio suffered, it made his power of narration of the plague more acute.

Boccaccio's Description of the Plague at Florence (1348)[26]

As often, most gracious ladies, as, taking thought in myself, I mind me how very pitiful you are all by nature, so often do I recognize that this present work will, to your thinking, have a grievous and a weariful beginning, inasmuch as the dolorous remembrance of the late pestiferous mortality, which it

beareth on its forefront, is universally irksome to all who saw or otherwise knew it. But I would not therefore have this affright you from reading further, as if in the reading you were still to fare among sighs and tears. Let this grisly beginning be none other to you than is to wayfarers a rugged and steep mountain, beyond which is situate a most fair and delightful plain, which latter cometh so much the pleasanter to them as the greater was the hardship of the ascent and the descent; for, like as dolor occupieth the extreme of gladness, even so are miseries determined by imminent joyance. This brief annoy (I say brief, inasmuch as it is contained in few pages) is straightway succeeded by the pleasance and delight which I have already promised you and which, belike, were it not foresaid, might not be looked for from such a beginning. And in truth, could I fairly have availed to bring you to my desire otherwise than by so rugged a path as this will be, I had gladly done it; but being in a manner constrained thereto, for that, without this reminiscence of our past miseries, it might not be shown what was the occasion of the coming about of the things that will hereafter be read, I have brought myself to write them.

I say, then, that the years [of the era] of the fruitful Incarnation of the Son of God had attained to the number of one thousand three hundred and forty-eight, when into the notable city of Florence, fair over every other of Italy, there came the death-dealing pestilence, which, through the operation of the heavenly bodies or of our own iniquitous dealings, being sent down upon mankind for our correction by the just wrath of God, had some years before appeared in the parts of the East and after having bereft these latter of an innumerable number of inhabitants, extending without cease from one place to another, had now unhappily spread towards the West. And thereagainst no wisdom availing nor human foresight (whereby the city was purged of many impurities by officers deputed to that end and it was forbidden unto any sick person to enter therein and many were the counsels given for the preservation of health) not yet humble supplications, not once but many times both in ordered processions and on other wise made unto God by devout persons,—about the coming in of the Spring of the aforesaid year, it began on horrible and miraculous wise to show forth its dolorous effects. Yet not as it had done in the East, where, if any bled at the nose, it was a manifest sign of inevitable death; nay, but in men and women alike there appeared at the beginning of the malady, certain swellings, either on the groin or under the armpits, whereof some waxed of the bigness of a common apple, others like unto an egg, some more and some less, and these the vulgar named plague-boils. From these two parts the aforesaid death-bearing plague-boils proceeded, in brief space, to appear and come indifferently in every part of the body; wherefrom, after awhile, the fashion of the contagion began to change into black or livid blotches, which showed themselves in many [first] on the arms and about the thighs and [after spread to] every part of the person, in some large and sparse and in others small and thick-sown; and like as the plague-boils had been first (and yet were) a very certain token of coming death, even so were these for every one to whom they came.

To the cure of these maladies nor counsel of physician nor virtue of any

medicine appeared to avail or profit aught; on the contrary,—whether it was that the nature of the infection suffered it not or that the ignorance of the physicians (of whom, over and above the men of art, the number, both men and women, who had never had any teaching of medicine, was become exceeding great,) availed not to know whence it arose and consequently took not due measures thereagainst,—not only did few recover thereof, but well nigh all died within the third day from the appearance of the aforesaid signs, this sooner and that later, and for the most part without fever or other accident. And this pestilence was the more virulent for that, by communication with those who were sick thereof, it gat hold upon the sound, no otherwise than fire upon things dry or greasy, whenas they are brought very near thereunto. Nay, the mischief was yet greater; for that not only did converse and consortion with the sick give to the sound infection or cause of common death, but the mere touching of the clothes or of whatsoever other thing had been touched or used of the sick appeared of itself to communicate the malady to the toucher. A marvellous thing to hear is that which I have to tell and one which, had it not been seen of many men's eyes and of mine own, I had scarce dared credit, much less set down in writing, though I had heard it from one worthy of belief. I say, then, that of such efficience was the nature of the pestilence in question in communicating itself from one to another, that, not only did it pass from man to man, but this, which is much more, it many times visibly did;—to wit, a thing which had pertained to a man sick or dead of the aforesaid sickness, being touched by an animal foreign to the human species, not only infected this latter with the plague; but in a very brief space of time killed it. Of this mine own eyes (as hath a little before been said) had one day, among others, experience on this wise; to wit, that the rags of a poor man, who had died of the plague, being cast out into the public way, two hogs came up to them and having first, after their wont, rooted amain among them with their snouts, took them in their mouths and tossed them about their jaws; then, in a little while, after turning round and round, they both, as if they had taken poison, fell down dead upon the rags with which they had in an ill hour intermeddled.

From these things and many others like unto them or yet stranger divers fears and conceits were begotten in those who abode alive, which well nigh all tended to a very barbarous conclusion, namely, to shun and flee from the sick and all that pertained to them, and thus doing, each thought to secure immunity for himself. Some there were who conceived that to live moderately and keep one's self from all excess was the best defence against such a danger; wherefore, making up their company, they lived removed from every other and shut themselves up in those houses where none had been sick and where living was best; and there, using very temperately of the most delicate viands and the finest wines and eschewing all incontinence, they abode with music and such other diversions as they might have, never suffering themselves to speak with any nor choosing to hear any news from without of death or sick folk. Others, inclining to the contrary opinion, maintained that to carouse and make merry and go about singing

and frolicking and satisfy the appetite in everything possible and laugh and scoff at whatsoever befell was a very certain remedy for such an ill. That which they said they put in practice as best they might, going about day and night, now to this tavern, now to that, drinking without stint or measure; and on this wise they did yet more freely in other folk's houses, so but they scented there aught that liked or tempted them, as they might lightly do, for that every one—as he were to live no longer—had abandoned all care of his possessions, as of himself, wherefore the most part of the houses were become common good and strangers used them, whenas they happened upon them, like as the very owner might have done; and with all this bestial preoccupation, they still shunned the sick to the best of their power.

In this sore affliction and misery of our city, the reverend authority of the laws, both human and divine, was all in a manner dissolved and fallen into decay, for [lack of] the ministers and executors thereof, who, like other men, were all either dead or sick or else left so destitute of followers that they were unable to exercise any office, wherefore every one had license to do whatsoever pleased him. Many others held a middle course between the two aforesaid, not straitening themselves so exactly in the matter of diet as the first, neither allowing themselves such license in drinking and other debauchery as the second, but using things in sufficiency, according to their appetites; nor did they seclude themselves, but went about, carrying in their hands, some flowers, some odoriferous herbs and other some divers kinds of spiceries, which they set often to their noses, accounting it an excellent thing to fortify the brain with such odors, more by token that the air seemed all heavy and attainted with the stench of the dead bodies and that of the sick and of the remedies used.

Some were of a more barbarous, though, peradventure, a surer way of thinking, avouching that there was no remedy against pestilence better than —no, nor any so good as—to flee before them; wherefore, moved by this reasoning and recking of nought but themselves, very many, both men and women, abandoned their own city, their own houses and homes, their kinsfolk and possessions, and sought the country seats of others, or, at the least, their own, as if the wrath of God, being moved to punish the iniquity of mankind, would not proceed to do so wheresoever they might be, but would content itself with afflicting those only who were found within the walls of their city, or as if they were persuaded that no person was to remain therein and that its last hour was come. And albeit these, who opined thus variously, died not all, yet neither did they all escape; nay, many of each way of thinking and in every place sickened of the plague and languished on all sides, well nigh abandoned, having themselves, what while they were whole, set the example to those who abode in health.

Indeed, leaving be that townsman avoided townsman and that well nigh no neighbor took thought unto other and that kinsfolk seldom or never visited one another and held no converse together save from afar, this tribulation had stricken such terror to the hearts of all, men and women alike, that brother forsook brother, uncle nephew and sister brother and

oftentimes wife husband; nay (what is yet more extraordinary and well nigh incredible) fathers and mothers refused to visit or tend their very children, as they had not been theirs. By reason whereof there remained unto those (and the number of them, both males and females, was incalculable) who fell sick, none other succor than that which they owed either to the charity of friends (and of these there were few) or the greed of servants, who tended them, allured by high and extravagant wage; albeit, for all this, these latter were not grown many, and those men and women of mean understanding and for the most part unused to such offices, who served for well nigh nought but to reach things called for by the sick or to note when they died; and in the doing of these services many of them perished with their gain.

Of this abandonment of the sick by neighbors, kinsfolk and friends and of the scarcity of servants arose an usage before well nigh unheard, to wit, that no woman, how fair or lovesome or well-born soever she might be, once fallen sick, recked aught of having a man to tend her, whatever he might be, or young or old, and without any shame discovered to him every part of her body, no otherwise than she would have done to a woman, so but the necessity of her sickness required it; the which belike, in those who recovered, was the occasion of lesser modesty in time to come. Moreover, there ensued of this abandonment the death of many who peradventure, had they been succored, would have escaped alive; wherefore, as well for the lack of the opportune services which the sick availed not to have as for the virulence of the plague, such was the multitude of those who died in the city by day and by night that it was an astoniment to hear tell thereof, much more to see it; and thence, as it were of necessity, there sprang up among those who abode alive things contrary to the pristine manners of the townsfolk.

It was then (even as we yet see it used) a custom that the kinswomen and she-neighbors of the dead should assemble in his house and there condole with those who more nearly pertained unto him, whilst his neighbors and many other citizens foregathered with his next of kin before his house, whither, according to the dead man's quality, came the clergy, and he with funeral pomp of chants and candles was borne on the shoulders of his peers to the church chosen by himself before his death; which usages, after the virulence of the plague began to increase, were either altogether or for the most part laid aside, and other and strange customs sprang up in their stead. For that, not only did folk die without having a multitude of women about them, but many there were who departed this life without witness and few indeed were they to whom the pious plaints and bitter tears of their kinsfolk were vouchsafed; nay, in lieu of these things there obtained, for the most part, laughter and jests and gibes and feasting and merrymaking in company; which usance women, laying aside womanly pitifulness, had right well learned for their own safety.

Few, again, were they whose bodies were accompanied to the church by more than half a score or a dozen of their neighbors, and of these no worshipful and illustrious citizens, but a sort of blood-suckers, sprung from

the dregs of the people, who styled themselves *pickmen* and did such offices for hire, shouldered the bier and bore it with hurried steps, not to that church which the dead man had chosen before his death, but most times to the nearest, behind five or six priests, with little light and whiles none at all, which latter, with the aid of the said pickmen, thrust him into what grave soever they first found unoccupied, without troubling themselves with too long or too formal a service.

The condition of the common people (and belike, in great part, of the middle class also) was yet more pitiable to behold, for that these, for the most part retained by hope or poverty in their houses and abiding in their own quarters, sickened by the thousand daily and being altogether untended and unsuccored died well nigh all without recourse. Many breathed their last in the open street, whilst other many, for all they died in their houses, made it known to the neighbors that they were dead rather by the stench of their rotting bodies than otherwise; and of these and others who died all about the whole city was full. For the most part one same usance was observed by the neighbors, moved more by fear lest the corruption of the dead bodies should imperil themselves than by any charity they had for the departed; to wit, that either with their own hands or with the aid of certain bearers, whenas they might have any, they brought the bodies of those who had died forth of their houses and laid them before their doors, where especially in the morning, those who went about might see corpses without number; then they fetched biers and some, in default thereof, they laid upon some board or other. Nor was it only one bier that carried two or three corpses, nor did this happen but once; nay, many might have been counted which contained husband and wife, two or three brothers, father and son or the like. And an infinite number of times it befell that, two priests going with one cross for some one, three or four biers, borne by bearers, ranged themselves behind the latter, and whereas the priests thought to have but one dead man to bury, they had six or eight, and whiles more. Nor therefore were the dead honored with aught of tears or candles or funeral train; nay, the thing was come to such a pass that folk recked no more of men that died than nowadays they would of goats; whereby it very manifestly appeared that that which the natural course of things had not availed, by dint of small and infrequent harms, to teach the wise to endure with patience, the very greatness of their ills had brought even the simple to expect and make no account of. The consecrated ground sufficing not to the burial of the vast multitude of corpses aforesaid, which daily and well nigh hourly came carried in crowds to every church,—especially if it were sought to give each his own place, according to ancient usance,—there were made throughout the churchyards, after every other part was full, vast trenches, wherein those who came after were laid by the hundred and being heaped up therein by layers, as goods are stored aboard ship, were covered with a little earth, till such time as they reached the top of the trench.

Moreover,—not to go longer searching out and recalling every particular of our past miseries, as they befell throughout the city,—I say that, whilst so sinister a time prevailed in the latter, on no wise therefor

was the surrounding country spared, wherein, (letting be the castles, which in their littleness were like unto the city,) throughout the scattered villages and in the fields, the poor and miserable husbandmen and their families, without succor of physician or aid of servitor, died, not like men, but well nigh like beasts, by the ways or in their tillages or about the houses, indifferently by day and night. By reason whereof, growing lax like the townsfolk in their manners and customs, they recked not of any thing or business of theirs; nay, all, as if they looked for death that very day, studied with all their wit, not to help to maturity the future produce of their cattle and their fields and the fruits of their own past toils, but to consume those which were ready to hand. Thus it came to pass that the oxen, the asses, the sheep, the goats, the swine, the fowls, nay, the very dogs, so faithful to mankind, being driven forth of their own houses, went straying at their pleasure about the fields, where the very corn was abandoned, without being cut, much less gathered in; and many, well nigh like reasonable creatures, after grazing all day, returned at night, glutted, to their houses, without the constraint of any herdsman.

To leave the country and return to the city, what more can be said save that such and so great was the cruelty of heaven (and in part, peradventure, that of men) that, between March and the following July, what with the virulence of that pestiferous sickness and the number of sick folk ill tended or forsaken in their need, through the fearfulness of those who were whole, it is believed for certain that upward of an hundred thousand human beings perished within the walls of the city of Florence, which, peradventure, before the advent of that death-dealing calamity, had not been accounted to hold so many? Alas, how many great palaces, how many goodly houses, how many noble mansions once full of families, of lords and of ladies, abode empty even to the meanest servant! How many memorable families, how many ample heritages, how many famous fortunes were seen to remain without lawful heir! How many valiant men, how many fair ladies, how many sprightly youths, whom, not others only, but Galen, Hippocrates or Aesculapius themselves, would have judged most hale, breakfasted in the morning with their kinsfolk, comrades and friends and that same night supped with their ancestors in the other world!

When Geoffrey Chaucer planned his *Canterbury Tales,* he borrowed Boccaccio's techniques as found in the *Decameron.* That is he made dramatic use of the merry crowds he saw on the Canterbury road and, indeed, his pilgrims (twenty-nine including Chaucer) are pledged each to tell two tales. Pollard[27] suggests that this pattern was original with Chaucer since there is no proof of his having seen the *Decameron.* But how Chaucer could have escaped knowledge of Boccaccio's Tales is hard to imagine especially since it is well known that he travelled to Italy in 1372 as one of three commissioners to treat with the Genoese and in 1373 visited Florence and Padua where he met Petrarch, a good friend of Boccaccio. Furthermore it is well known that Chaucer's Italian experience greatly improved the literary qualities of his poetry.

There are a few lines from the Pardoner's Tale found in Chaucer's *Canterbury Tales* that deal with the plague and they are so rich, not only in the character portrayals but also in their giving the reader a vivid description of the plague that I am especially pleased to reprint them. Skeat[28] believed that the pestilence referred to here by Chaucer was one of the great plagues that took place in the reign of Edward III. These were the plagues of 1348-1349; 1361-1362; 1369; 1375-1376. But since Chaucer probably has this story from an Italian source it is more probably the Black Death of 1348—the effects of which spread all over Europe (probably including Flanders in which the scene of the Pardoner's Tale is laid)—and which had been so well told, as we have seen, by Boccaccio.

Chaucer's Description of the Plague from the Pardoner's Tale[29A]

Thise ryotoures three, of whiche I telle,
Longe erst er pryme rong of any belle,
Were set hem in a taverne for to drinke;
And as they satte, they herde a belle clinke
Biforn a cors, was caried to his grave;
That oon of hem gan callen to his knave,
'Go bet,' quod he, 'and axe redily,
What cors is this that passeth heer forby;
And look that thou reporte his name wel.'
'Sir,' quod this boy, 'it nedeth never-a-del.
It was me told, er ye cam heer, two houres;
He was, pardee, an old felawe of youres;
And sodeynly he was y-slayn to-night,
For-dronke, as he sat on his bench upright;
Ther cam a privee theef, men clepeth Deeth,
That in this contree al the peple sleeth,
And with his spere he smoot his herte a-two,
And wente his wey with-outen wordes mo.
He hath a thousand slayn this pestilence:
And, maister, er ye come in his presence,
Me thinketh that it were necessarie
For to be war of swich an adversarie:
Beth redy for to mete him evermore.
Thus taughte me my dame, I sey na-more.'
'By seinte Marie,' seyde this taverner,
'The child seith sooth, for he hath slayn this yeer,
Henne over a myle, with-in a greet village,
Both man and womman, child and hyne, and page.
I trowe his habitacioun be there;
To been avysed greet wisdom it were,
Er that he dide a man a dishonour.'
'Ye, goddes armes,' quad this ryotour,

'Is it swich peril with him for to mete?
I shal him seke by wey and eek by strete,
I make avow to goddes digne bones!
Herkneth, felawes, we three been al ones;
Lat ech of us holde up his hond til other,
And ech of us bicomen otheres brother,
And we wol sleen this false traytour Deeth;
He shal be slayn, which that so many sleeth,
By goddes dignitee, er it be night.'

For the benefit of those of us who prefer Chaucer in modern English the following rendering by J. U. Nicolson[29B] is reprinted:

Now these three roisterers, whereof I tell,
Long before prime was rung by any bell,
Were sitting in a tavern for to drink;
And as they sat they heard a small bell clink
Before a corpse being carried to his grave;
Whereat one of them called unto his knave:
'Go run,' said he, 'and ask them civilly
What corpse it is that's just now passing by,
And see that you report the man's name well.'
'Sir,' said the boy, 'it needs not that they tell.
I learned it, ere you came here, full two hours;
He was, by gad, an old comrade of yours;
And he was slain, all suddenly, last night,
When drunk, as he sat on his bench upright;
An unseen thief, called Death, came stalking by,
Who hereabouts makes all the people die,
And with his spear he clove his heart in two
And went his way and made no more ado.
He's slain a thousand with this pestilence;
And, master, ere you come in his presence,
It seems to me to be right necessary
To be forewarned of such an adversary:
Be ready to meet him for evermore.
My mother taught me this, I say no more.'
'By holy Mary,' said the innkeeper,
'The boy speaks truth, for Death has slain, this year,
A mile or more hence, in a large village,
Both man and woman, child and hind and page.
I think his habitation must be there;
To be advised of him great wisdom 'twere,
Before he did a man some dishonour.'
'Yea, by God's arms!' exclaimed this roisterer,
'Is it such peril, then, this Death to meet?
I'll seek him in the road and in the street,
As I now vow to God's own noble bones!

Hear, comrades, we're of one mind, as each owns;
Let each of us hold up his hand to other
And each of us become the other's brother,
And we three will go slay this traitor Death;
He shall be slain who's stopped so many a breath,
By God's great dignity, ere it be night.'

Not long after the outbreak of the Black Death (perhaps in 1357), the Chancellor of the University of Montpellier, Jean Jasme, wrote in French verse a tract on plague regimen and remedies which has an interesting history, some of the details of which are still uncertain. Although the plague had been brought to most of the civilized world by the end of that century, it was not until 1450 that it reached Sweden. Then for the next five years it devastated the population. It continued on and off for many years, and one of the most serious pandemics occurred during the years 1464 and 1465. This lead a Swedish Bishop, Bengt Knutsson, to circulate a Latin prose version of Jasme's French poem. Whether this version was made by Knutsson, or whether Jasme himself had made it a century before, we do not know; but the early printed editions went under the name Canutus, a Latinized form of Knutsson's name. The same wave of the plague reached Paris and London. In 1485 another plague, "sudor Anglicus" or the English sweating sickness, made its appearance. It was probably this that provided the occasion for the printing, apparently in that year, of three editions of an English prose version made from the Latin prose version of Jasme's French poem. The title was: *A litil boke the whiche traytied and reherced many gode thinges necessaries for the . . . Pestilence.*[30] This was the first English book with a separate title page, and the first medical book printed in England.

During the fourteenth and later centuries many broadsides were published about the plague. Karl Sudhoff[31] made extensive studies of some of the "Pestblätter" and plague tractates. Of 281 plague tracts listed by Sudhoff, seventy-seven were written before 1400 and twenty or twenty-one within five days of the outbreak of the Black Death.

Many playwrights have found it profitable to use the dramatic possibilities of the plague. Sophocles probably was the first. In his tragedy, *King Oedipus,* the king unknowingly kills his father, Laïus, and marries his own mother. After a prosperous reign a dreadful pestilence appears and since—as was still believed into the seventeenth and eighteenth centuries—the plague was caused by the anger of a God over the misdeeds of man, Oedipus attempts to find and punish the murderer of Laïus,[32] not knowing that he himself is this man.

Thomas Nashe (1567-1601) the English satirist also introduces the plague in his play *Summers Last Will and Testament.* According to Robert McKerrow[33] the year of writing and presumably of the first performance of the play was 1592.

This is the play where Summer[34] realizes his approaching death and asks Wil Summer to

> Sing me some dolefull ditty to the Lute,
> That may complaine my neere approaching death.

And Wil Summer sings:

> Adieu, farewell earths blisse,
> This world uncertain is,
> Fond are lifes lustfull joyes,
> Death proves them all but toyes,
> None from his darts can flye;
> I am sick, I must dye:
> Lord, have mercy on us.
>
> Rich men, trust not in wealthe,
> Gold can not buy you health;
> Phisick himselfe must fade—
> All things to end are made,
> *The plague full swift goes bye;*
> I am sick, I must dye:
> Lord, have mercy on us.
>
> Beauty is but a floure,
> Which wrinckles will devoure,
> Brightnesse falls from the ayre,
> Queenes have died yong and faire,
> Dust hath closde Helens eye.
> I am sick, I must dye:
> Lord, have mercy on us.

Ben Jonson[35] also made use of the plague in his famous play, *The Alchemist*. This was written in 1610, a severe plague year, and the action of the play is timed around the plague.

Shakespeare used the language of the plague on many occasions in his plays but did not seem to use it in the development of any of his plots. A good example of his metaphorical use of the plague is found in *King Lear* (Act II, Scene 4, Line 227) in which Lear says to Goneril:

> I prithee, daughter, do not make me mad:
> I will not trouble thee, my child; farewell.
> We'll no more meet, no more see one another;
> But yet thou art my flesh, my blood, my daughter;
> Or rather a disease that's in my flesh,
> Which I must needs call mine: thou art a boil,
> A plague-sore, an embossed carbuncle,
> In my corrupted blood.

Although the literature of the Great Plague of London of 1665 and

the Marseilles epidemic of 1720, the pandemics that brought the cycles of the Black Death to a close, is voluminous, the popularization of these epidemics was the work of Daniel Defoe, and of all the published descriptions those of Defoe are still best remembered. Daniel Defoe was a boy of six during the London epidemic and it is doubtful that much he saw as an eyewitness was remembered. But by the time of the Marseilles epidemic of 1720, he was a mature writer who had recently (1719) penned *The Life and Strange Surprizing Adventures of Robinson Crusoe. Robinson Crusoe* was Defoe's great work and brought him everlasting fame. He found a comparable theme in the Plague. Here it was not the adventures, trials and tribulations, if you will, of a shipwrecked individual but the misfortunes of a great city visited by a dreadful calamity for although he wrote of the great plague of London (1665) it was the Marseilles Plague of 1720-21 that was fresh in his mind. Defoe, also, may have had altruistic motives; he wanted to prepare the people against another possible visitation of the plague in London, the plague of London of 1665 having been so disastrous. During the Marseilles epidemic he had kept a diary which has been printed in some editions of his works. In his *Journal of the Plague Year*[36] and in his *Due Preparations for the Plague*[37] alike, he had both epidemics in mind.

Defoe's *Journal of the Plague Year* is vivid and realistic. Richard Mead,[38] the distinguished English physician, quoted from Defoe's work in his account of the plague and thus established its authenticity. The simplicity of Defoe's style makes for clear descriptions and his sense of detail makes for realism.

The sources of Defoe's description have been carefully studied.[39] The three chief printed sources were (1) *London's Dreadful Visitation,* 1665, which gave him the Bills of Mortality, (2) Nathaniel Hodges's *Loimologia,* translated by Dr. Quincy in 1720, which gave him the physician's viewpoint, and (3) the Rev. Thomas Vincent's *God's Terrible Voice in the City,* 1667, which supplied him with the hellfire and brimstone, the popular viewpoint.

As was Defoe's custom, he put the story in the first person, a most convincing method, and in this book the reader learns about the plague from the conversations and thoughts of a saddler.

Defoe's alluding to the city of London as a personality may be compared to the modern sociological ecologic viewpoint.

This comes early in the *Journal:*[40]

> The face of London was now indeed strangely altered, I mean the whole mass of buildings, city, liberties, suburbs, Westminster, Southwark, and altogether; for as to the particular part called the city, or within the walls, that was not yet much infected. But in the whole the face of things, I say, was much altered; sorrow and sadness sat upon every face; and though some

parts were not yet overwhelmed, yet all looked deeply concerned; and as we saw it apparently coming on, so everyone looked on himself and his family as in the utmost danger . . . London might well be said to be all in tears. . . .

Though many quacks were to die from the plague even while dispensing their many remedies, they did much to make the most of the plague, and Defoe warns the public against them:

It is incredible, and scarce to be imagined, how the posts of houses and corners of streets were plastered over with doctors' bills and papers of ignorant fellows, quacking and tampering in physic, and inviting the people to come to them for remedies, which was generally set off with such flourishes as these, viz.:

"Infallible preventive pills against the plague." "Never-failing preservatives against the infection." "Sovereign cordials against the corruption of the air." "Exact regulations for the conduct of the body in case of an infection." "Anti-pestilential pills." "Incomparable drink against the plague, never found out before." etc.[41]

Besides writing about the plague in the newspapers and his *Journal of the Plague Year,* Defoe also published in 1722 a work entitled *Due Preparations for the Plague.* It is generally assumed that this account followed his *Journal* since by implication its title sounds like a sequel and in some ways it reads as a continuation to his *Journal.* On the whole it is not as finished as the *Journal,* but there is a story in *Due Preparations* that is Defoe at his best. This is his account of a family who in order to quarantine themselves from any possible infection lived shut up in their house without going outside for a period of five and a half months during the time the plague was at its worst in London (July 14 to the first of December, 1665). This family consisted of husband, wife, three sons and two daughters, and two maid servants and an apprentice.

As part of the preparations for this voluntary quarantine the head of the house arranged for the storing of plenty of provisions. After this had been done Defoe tells of the many precautions taken against any possible contamination. Typical is his account of the purification of letters after being carried to his residence by the postman:[42]

His letters were brought by the postman, or letter-carrier, to his porter, when he caused the porter to smoke them with brimstone and with gunpowder, then open them, and to sprinkle them with vinegar; then he had them drawn up by the pulley, then smoked again with strong perfumes, and, taking them with a pair of hair gloves, the hair outermost, he read them with a large reading-glass which read at a great distance, and, as soon as they were read, burned them in the fire; and at last, the distemper raging more and more, he forbid his friends writing to him at all.

It was probably unknown to Defoe that rats had anything to do with

the spreading of the plague. Yet the master of the house "caused all the rats and mice in his house to be effectually poisoned and destroyed."[43]

Chaucer, as we have seen, made effective use of the plague bell and Defoe also makes use of it to achieve dramatic effect.[44]

> By this time they heard a bell go ringing nightly along the streets, but they knew not what it meant, it not being like the sound of the ordinary bellman; and though they heard a voice with the bell, yet as it did not go at first by their door, so they could not distinguish what it was they said; and as their porter did not sit at their door in the night as he did in the day, they could not inquire; but at length their porter informed them that the number of people that died was so great in the outparts that it was impossible to bury them in form or to provide coffins for them, nobody daring to come into the infected houses; and that therefore the Lord Mayor and Aldermen had ordered carts to go about with a bellman to carry away the dead bodies; that this had been done in the parishes of Holborn and St. Sepulchre, Cripplegate, and other large parishes, above a fortnight, and that they began now to come into the city, and that in particular to the parish of St. Olave, Silver Street, which was very sickly, and that the carts were come thither the night before.

Again:[45]

> It was observable now that whereas they found, as is said above, that it was very melancholy at first to hear so many knells going continually, so on a sudden they now observed that there was not one knell to be heard; the reason, as his new porter told him, was that the number of those that died was so great, that they had forbid the bells ringing for anybody, and people were all fetched away by the carts, rich as well as poor.

This then has been an excursion into a few of the literary descriptions of the plague. It is by no means a complete review, but is merely suggestive of the power of the talented storyteller in dealing with many situations caused by the pestilential Black Death. The Plague brought with it the downfall of feudal Europe and from the experiences of the Black Death the physicians developed the theory of contagion.

In 1485, according to Hecker,[46] a special council of health was established at Venice which tried to prevent the plague from entering Venice from Milan. This council finally had to be granted the right of life and death over those who violated their regulations to insure their success. In 1485, also, the first lazarettos were established upon islands some distance from the city. These "detaining" stations were used to house strangers coming from places where existence of plague was suspected. In cases occurring in the city the sick and his family were sent to the "Old Lazaretto." When cured the patient and family were transferred to the "New Lazaretto" on another island and detained *forty* days, the original meaning of "quarantine." Even Leonardo[47] contributed ideas to the eradication of the plague of 1484-86. He proposed to Lodovico,

the ruler of Milan, the erection of new towns so that "you will distribute the mass of humanity, who live crowded together like herds of goats, filling the air with stench and spreading the seeds of plague and death."

The bubonic plague is very much a problem today even though its etiology and prophylaxis are well known. Sylvatic (squirrel) plague is spreading through the United States, and in Russia and South Africa there is much concern about the spread of the disease among rodents. Perhaps a rereading of the classic literary descriptions of the plague would help to arouse public support for the necessary preventive measures.

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Literary Qualities of Some American Medical Classics

By W. B. McDaniel, 2d

I

Every now and then one hears in the wilderness of the American medical press an anguished voice crying out against the quality of the prose being produced currently by our medical writers.[1] Invidious comparisons are sometimes made between the literary quality of English and American medical writing. This seems to be another matter about which everyone complains but nobody does anything.

If we were to adopt the scientific approach to this problem, we would first honestly acknowledge that the seeming greater incidence of "bad" writing may be due largely to the fact that the total production of medical literature in the present century is so vastly greater than that of the preceding century. But even if this should be the case, the amount of inept writing is great enough certainly to give those interested reason to grieve and to ponder.

Supposing, then, quite unscientifically, that there has been an actual decline in the literary quality of American medical writing, the present writer proposes two of several possible reasons for the decline.

One is the rapid disappearance in the present century of what used to be called, when it was alive, the "classical" system of education. Under this system students were taught not only Latin and Greek and mathematics and history—but respect for the intricacies of their native language as well. However ill-prepared for their subsequent occupations this system may have left them, they emerged, as a rule, with a healthy concept of some measure of conscious control over their native language as a part of their rightful heritage. The system was, of course, of especial advantage to those entering the professions, until these became so scientific that they created new worlds independent of the classical culture out of which they developed. The orientation of our philosophy of education has, as every one knows, performed a nearly complete about-face in the present century. Utility, pragmatism, dominate our educational system today.

The divorce of science from general culture is the second reason we propose for the decline.

Even before science had sailed into the blue and set itself up in bachelor quarters, it had won special indulgence. Witness one of the definitions of the word *literature* in the 1905-6 edition of Webster: "The class of writings in which beauty of style or expression is a characteristic feature, as poetry, romance, history,[2] biography,[2] essays, etc., *in contradistinction to scientific works, or those written expressly to impart knowledge*" [my italics]. This distinction is not classical, but is exceedingly enlightening as foreshadowing the present refusal of science to regard itself as amenable to cultural laws.

The contemporary concept of education in this country, and this snobbish attitude of science, make it seem probable, therefore, that the medical classics of our day will have to be read in later times exclusively for purposes of verification, and without the hope of an accessory pleasure derived from the feeling that the joint authors (the day of the single author having now almost vanished) had any control over their means of communication, any concept of their communication as a part of the cultural heritage to be transmitted to their descendants. Let us be prepared to have our generation's classics regarded as practically automatic writing.

II

Has there ever been any American medical writing that could be regarded as literature? (By "literature" I mean simply prose that in one way or another achieves some artistic effect on its own, whether it be arrived at consciously or seemingly without design.)[3] If there has been, what, if any, conclusions can be drawn from a consideration of the environmental and temperamental backgrounds of the authors concerned? I propose that we gently examine a few of the better-known of our medical classics with these questions in mind. Exigencies of space and patience will require that quotations be kept at a minimum, but most, if not all, of the works referred to will be easily available to any readers of this paper. I have deliberately omitted consideration of the medical classics of men, such as Holmes and Weir Mitchell, who enjoyed independent literary reputations; and it seemed best not to turn back so far that our judgment might be imperiled by mere quaintness of expression.

Ephraim McDowell (1771-1830)

In 1817 Ephraim McDowell, of Danville, Kentucky, published a three-page paper, "Three Cases of Extirpation of Diseased Ovaria,"[4] which is now regarded as having opened up the field of abdominal surgery. Two and a half years later, he published a somewhat more extended report on the same subject.[5] This is, I believe, the extent of his published professional writing.

Not infrequently McDowell is thought of as a simple country doctor,

with all that the term implies in the way of schooling and social environment. We know, however, from the basic but very trying Victorian biography by his granddaughter,[6] that McDowell's early education was received at a classical seminary; that he studied medicine in Virginia for two or three years; and that for two years he attended lectures at the University of Edinburgh, then boasting the foremost medical school in the English-speaking world, which he supplemented with private courses under the celebrated surgeon John Bell. Mrs. Ridenbaugh tells us, furthermore, that,

> He was fond of books, and at the time of his death possessed an excellent library for the period in which he lived. He constantly made additions to his medical works, and whenever a new book of merit was issued he would invariably purchase it. The iron grasp of progress had a firm hold on him and would not relax its grip until he had arrived at the pinnacle of fame and achieved the earnest desire of his heart.
>
> He had a fair knowledge of the classics, yet he gave most of his leisure time to *belles-lettres* and history, both of which he was very fond of studying. He also gave much and earnest attention to biology.[7]

Danville, it may be remarked, was "a small rural village composed of an aristocratic little colony."

Consideration of the literary qualities of McDowell's reports must take into account the fact that they were published in a magazine. This immediately poses a nice question: How much of the literary effect of a magazine article is to be attributed to the author, how much to the editor? So long as editors insist upon editing and not allowing writers to stew in the witches' brew of their literary deficiencies, which for educational and historical reasons they ought to do, we shall never know. All we can do is accept the printed page as the author's child and let any injustices fall where they may.

The rather striking difference in the literary qualities of the McDowell reports is at once explained, superficially, by the fact that the first is printed as a formal article, the second in the form of a letter to the editor, Dr. T. C. James. Whether Dr. James edited McDowell's original communication, whether the literary-minded Mrs. McDowell worked over it, or whether McDowell himself is solely responsible for the printed report, the fact remains that it is a piece of prose worthy its position as a medical classic. Its style and form are beautifully simple and direct from the first sentence to the last; its sentences grammatically correct, well punctuated, lucid, and varied enough in structure to prevent any suggestion of monotony; its diction unpretentious but vigorous. These, and doubtless other, qualities combine to effect a piece of animated prose that it is a pleasure to read today. McDowell's education and tastes could easily, one would think, have produced this.

When we turn to the somewhat polemical second report, we find a different state of affairs. Its sentences are sometimes incomplete and badly constructed in other ways, punctuation is of the variety that suggests so forcibly that it is based on asthmatic breathing rather than on sense; and the whole effect is that of a careless writer not too sensitive to literary matters. Yet there remains enough of the distinctive qualities of the first report to suggest that McDowell probably had a well-read man's control of his means of communication. The emergence of the first report as a good piece of prose, and the failure of the second one in that respect, could obviously be attributed, as has been suggested, to the different form adopted and the circumstances surrounding the writing of each, assuming that no second hand was involved in the reports as we read them. We cannot under the circumstances presume to assess McDowell's literary prowess. But we can affirm that his first report permits, 128 years later, a good deal of respect for its literary quality. And it is clear that Ephraim McDowell's training and cultural tastes were of a character easily to explain the possession of literary skill, other things being equal.

William Beaumont (1785-1853)

One of the most interesting facts concerning William Beaumont's *Experiments and Observations on the Gastric Juice, and the Physiology of Digestion*[8] is that it was designed to be read by "physiologists, physicians, men of science, and the whole community."[9] This is quite a compliment to the cultural level of the community in Beaumont's day, and arouses some curiosity as to the literary qualities of a work designed for so large a public.

Two factors are of paramount interest in attempting to assess Beaumont's literary gifts: 1) his early education and cultural tastes; and 2) the part played by his cousin Dr. Samuel Beaumont in preparing the work for the press, since in this case there is no doubt that our author had such assistance.

Until he reached his majority, Beaumont, the son of a farmer, lived in the township of Lebanon, Connecticut. There he attended the public school, which was for many years one of the most famous of the famous New England schools, but in Beaumont's day was not ranked above the average of New England public schools. It is said that "Not only had he made the best of his common school education, but newspapers and magazines, which were rapidly multiplying in New England and now numbered about three hundred, conveyed to his receptive young mind knowledge of the vast progress of the world beyond his little horizon."[10] Published letters of Beaumont (which may have been edited, of course) indicate that he could command a lively, highly literate use of his native language. Even in the letters there are suggestions that he was concerned

to make his meaning unambiguous. His mind was capable of bridging the gap between two successive sentences. All the more interesting then is Mrs. Beaumont's comment: "I see that one of the editors pronounced you a great scholar. That was particularly pleasing, as on that point . . . Samuel was most uneasy, as he said you nor himself were either scholars."[11]

We are in a singularly fortunate position in respect of an opportunity to witness the literary progress of Beaumont's preliminary report. The original hospital record kept by Beaumont is extant and the first page of it has been reproduced.[12] This can be compared with the first printed version, that in the *Medical Recorder*;[13] though the manuscript passed through the hands of Surgeon-General Lovell, we have his statement that "I shall send it to the *Medical Recorder* for publication, altering it only so far as may be necessary to introduce a part of your letter relative to the present state of your patient."[14] This, in turn, can be compared with the editions of 1833 and 1847 after the manuscript had received the editorial attention of Dr. Samuel Beaumont. It may be of some interest to view the literary mutations which the opening paragraphs of Beaumont's introduction underwent from the original hospital record to the edition of 1833; alterations made for the 1847 edition were entirely the work of Dr. Samuel Beaumont and therefore that edition falls outside the scope of our inquiry.

1. The Original Hospital Record[15]

St. Martin, San Maten. Alex. Samata, a Canadian Lad about 19 years old, hardy, robust & healthy, was accidentally shot, by the unlucky discharge of a gun, on the 6th of June 1822?—

The whole charge, consisting of powder & duck shot, was received in the left side at not more than 2 or 3 feet distance from the muzzle of the piece, in a posterior direction, obliquely forward & outwards—carrying away by its force, the integuments more than the size of the palm of a man's hand.—blowing off & fracturing the 6th rib, from about the middle anteriorily—fracturing the 5th—Rupturing the lower portion of the left lobe of the Lungs.—& lacerating the Stomach, by a spicula of the rib that was blown through it [sic] coat—Lodging the charge, wadding, fire in among the fracured ribs & lacerated muscles & integuments, burning the clothes & flesh to a crisp.

2. *The Medical Recorder*[16]

Alexis San Martin, a Canadian lad, 18 years of age, of good constitution, robust and healthy, was accidentally wounded by the discharge of a musket, on the 6th of June, 1822.

The charge, consisting of powder and duck shot, was received in his left side, at a distance of not more than one yard from the muzzle of the piece. It entered posteriorly, and in an oblique direction forward and inward; carrying away the integuments and muscles to the size of a man's

hand; fracturing and entirely blowing off the anterior half of the sixth rib; fracturing the fifth; lacerating the lower portion of the left lobe of the lungs, and the diaphragm; and perforating the stomach. The whole contents of the musket, with fragments of clothing and pieces of the fractured ribs, were driven into the muscles and the cavity of the chest.

3. The Edition of 1833

Alexis St. Martin, who is the subject of these experiments, was a Canadian, of French descent, at the above mentioned time about eighteen years of age, of good constitution, robust and healthy. He had been engaged in the service of the American Fur Company, as a voyageur, and was accidentally wounded by the discharge of a musket, on the 6th of June, 1822.

The charge, consisting of powder and duck shot, was received in the left side of the youth, he being at a distance of not more than one yard from the muzzle of the gun. The contents entered posteriorly, and in an oblique direction, forward and inward, literally blowing off integuments and muscles of the size of a man's hand, fracturing and carrying away the anterior half of the sixth rib, fracturing the 5th, lacerating the lower portion of the left lobe of the lungs, the diaphragm, and perforating the stomach.

The whole mass of materials forced from the musket, together with fragments of clothing and pieces of fractured ribs, were driven into the muscles and cavity of the chest.

The hospital record must be taken for what it is, a private record of an interesting case, the details put down rather fully and without particular thought to the manner of expression. But the report, based on this record, that was sent to Surgeon-General Lovell and by him to the *Medical Recorder* may probably fairly be taken as representative of Beaumont's formal literary style, at least at that period.

We note at once a tightening up achieved by the elimination of non-essential elements, such as the characterization of the discharge as "unlucky"; through the substitution of "not more than one yard" for "not more than 2 or 3 feet"; of "the whole contents of the musket" for "charge, wadding, fire" (no improvement from any point of view perhaps). The stomach is more correctly described as perforated, rather than lacerated, and the charge as entering forward and "inward," rather than "outwards." The second paragraph (in the hospital record) has been subjected to a little plastic surgery and emerges considerably improved as three separate sentences adequately punctuated.

Still more interesting are the changes that appear in the first edition of the book and that are doubtless to be attributed in large part to the editorial hand of Samuel Beaumont. There is at once apparent an attempt at both greater "elegance" and precision. The simple directness of Beaumont's original paragraphs has suffered literary inflation—and with the usual unfortunate results. No one of the added details has any

bearing on the story or any literary value. The attempts at greater elegance and precision—"at the above mentioned time about eighteen years of age"; "was received in the left side of the youth, he being . . . gun"; "*of* (vice *to*) the size of a man's hand"; "The whole mass of materials forced from the musket"—were probably suited to the taste of the general public of that day, but do not perhaps achieve quite the same effect today. Beaumont's original semi-colons (second paragraph), somewhat old-fashioned so used but nevertheless effective, have given way, we note, to the correct and colorless comma.

At the close of his 32-page review of Beaumont's work,[17] Dr. D. Francis Condie remarked: "In the event of a second edition, which will no doubt be speedily called for, a careful revision of his text will enable the author to remove those inaccuracies and obscurities of style with which the present is replete." As is well known, some fourteen years were to elapse before the second edition appeared. When it did, the corrections (professedly of a verbal nature only)[18] were contributed by Samuel Beaumont, the author having no hand in the preparation of the second edition; confidence in the former's ability to change things for the better is not further enhanced by an unfortunate misprint on the very first page of the Introduction in the new edition.

William Beaumont had a great story to tell and there is every indication that he was aware of the fact. As a student at a famous New England school, he almost certainly had some grounding in the classical discipline. If his letters to his son remind us rather unkindly of Mr. Pontifex, they are full of expressions of respect for learning and culture, and other letters show that, while scarcely a grammarian, he had at his best a fluent, colorful literary style. It seems not improbable that Beaumont, like many essentially non-literary men, was unable to use most effectively the literary equipment he had because of the psychological barrier falsely raised between informal and "formal" writing. It would be bordering on idolatry to claim that the *Experiments and Observations* is any great shakes as literature. But, despite the not very malleable subject matter, it could have been a worthier piece of prose than it is, had the Beaumonts been able to bring to their task the qualities that they themselves knew they lacked, a disciplined and cultivated literary taste. As it stands, however, and thanks to a conscientious, if possibly misdirected, use of the talents they had, the work has a literate quality and a literary flavor that it would probably not have, were it being written in this year of grace.

Daniel Drake (1785-1852)

Daniel Drake, one of the most original and winning figures in the history of American medicine, was famous for the literary quality of his writings. These offer an interesting study because of the author's educa-

tional background, his attitude toward literary work, and the varying literary character of his work, all of which can be no more than hinted at in this paper.

Drake's *Pioneer Life in Kentucky: a Series of Reminiscential Letters,*[19] which deals with the author's life through his fifteenth year, is one of the greatest of American autobiographies, a masterpiece of description, psychological insight, philosophical reflection—and almost of prose writing. There is scarcely a page of it that does not contain one or more passages worth treasuring in the memory. It deserves to be made a part of the required reading in our schools, and also the final accolade of our times—inclusion in one of the valuable series of pocket-size editions that have done so much to encourage wider reading of literary works no longer young but vital to our ways of thought.

Though Drake, the son of parents whom he characterizes as illiterate,[20] was "a pretty good reader" at the age of seven or eight, and had begun to write a year or so later, nevertheless, when he left his father's cabin, at the age of fifteen, to study medicine, his formal education had hardly progressed beyond a rudimentary knowledge of the three R's; there was subsequently a little more-or-less formal instruction in Latin, but in the main Drake's education was pretty much self-administered. A few of his later reflections will serve to illustrate the character of his education, the personal qualities that he added to it, and his awareness of our literary obligations.

> Before I fell in with the grammar of geography, I was advanced from Dilworth's to Webster's *Spelling-book,* and was greatly interested in its augmented vocabulary of new and hard words, and in the new reading it afforded. . . .[21]
>
> With Master Smith I began my classical studies. True, he knew nothing of grammar, etymology, geography, or mathematics; but he had picked up a dozen lines of Latin poetry, which I had an ambition (carried out) to commit to memory. I was much taken with the sounds of the words—the first I had ever heard beyond my mother tongue. From the few I now recollect, I presume the quotation was from the eclogues of Virgil.[22]
>
> Much of it [Dickinson's *Farmer's Letters*] was above my comprehension, but it made the mind strain forward. . . .[23]
>
> The "fall," as we always called it, not less than spring and summer, brought its sylvan scenes and pleasures; but do not for a moment suppose that the foreign adjective (sylvan) I have just employed was a word of those days, or that "autumn" and "forest" made a part of our vocabulary. All was rudely vernacular, and I knew not then the meaning of that word. We spoke a dialect of old English, in queer pronunciation and abominable grammar. After I left home and began the study of medicine, and to read books, abounding as those of my profession did, in that day more than the present, in long and lumbering words derived from Greek and Latin roots, it was not unnatural, I think, that I should become enamored of them, and seek to escape upon them from the vulgarisms of my mother-tongue. In the progress

of time better views came into my mind, and a reaction took place; but it was too late, and up to this very epistle (the word should have been *letter*)[24] I find them intrusively precluding more appropriate Anglo-Saxon synonyms.[25]

Had I at that time [his youth] been incarcerated within the walls of an academy conjugating Latin verbs, or learning Greek alpha-betas, I might possibly have become a man of some erudition, but have lost, perhaps, that love of nature, which has been to me throughout life an exhaustless source of enjoyment. This, at least, is a harmless, perhaps even a praiseworthy speculation, for it is certainly commendable to submit gracefully to our deprivations, and sophistry can not be condemned when employed to reconcile us to conditions that are irremediable.[26]

The truth is that I was the whole time in a school (I will not *any longer* say, of adversity, but) of probation and discipline, and was only deprived of the opportunities afforded by the school of letters. Great and precious as these are to him who is afterward to cultivate literature and science, they are not the whole. They impart a certain kind of knowledge, and strengthen the memory, but they leave many important principles of our nature undeveloped, and therefore can not guarantee future usefulness or fame.[27]

As to my actual attainments in learning, they were certainly quite limited, and yet I could read and examine a dictionary for the meaning of words; and here is the starting point of all improvement . . .[28]

This proves that my own taste in style was not good. But, perhaps, the weight and depth of thought in the former [the *Rambler*], decidedly greater than in the latter [the *Spectator*], it now seems to me . . . gave me a relish for its style. Howbeit, I have, probably, a natural taste for balanced periods, in which the words present antithesis and the ideas antagonism.[29]

Even from these brief quotations it seems clear that Drake entered upon the study of medicine with less than the minimum of formal classical education which might be thought necessary for the acquiring of the literary facility that he later displayed so abundantly. He has shown us, however, that he possessed those rare gifts, sensitivity to the "sound" of words and a respectful regard for language as a means of communication. These gifts, combined with a studious temperament, can always be relied upon to overcome an initial educational handicap.

It is impossible to regard any one of Drake's writings as an archetype of his literary style, because he was so aware of the limitless possibilities in the use of language that he attempted to adapt his manner of expression to the supposed conventional style of the subject at hand. Thus he says at the conclusion of his reminiscential letters: "In these pages, written without premeditation or plan, and only four of them copies (to get rid of an error of logic in some of my philosophical reflections), I have embodied in a truly off-hand style the principal matters connected with the first fifteen years of my life. . . ." Elsewhere, he refers to another piece of work as not having been written in the declamatory style suitable to a public address. And the quotations given above further amply

indicate Drake's preoccupation with the matter of literary style. Our judgments may not always coincide with his, but the important fact remains that he was not indifferent to the cultural aspects of his work but, on the contrary, viewed them with the same perceptive, uncompromising objectivity that makes the letters on the whole a remarkable document in the unprofessional literature of psychoanalysis.

Of Drake's "rugged and vigorous Anglo-Saxon English," as exhibited in hos most celebrated work, *A Systematic Treatise . . . on the Principal Diseases of the Interior Valley of North America,* Juettner says that it "does not possess the academic correctness of John D. Godman's, the aesthetic quality of James T. Whittaker's, or the scholastic finish of Roberts Bartholow's, but Drake surpasses all these masters of style and diction in his elementary and irrepressible vigor. No American physician has ever put forth the fiery, almost explosive temperament, terse, pointed, strong and incisive English, ever-present and overtowering individuality as Daniel Drake."[30]

A third of a century after they were written, these words may seem to us somewhat excessive as applied to the *Treatise.* The prose of this classic now seems to us admirably lucid, unpretentious, literate (except for occasional eruptions of the asthmatic punctuation already referred to), but neither notably vigorous nor individual in any other respect. On the other hand, Juettner's words might seem today to characterize more fitly a goodly part of the rest of Drake's literary output. This varies considerably from the so-called "off-hand" (but obviously fully controlled) style of the reminiscential letters through the relatively unaffected but vigorous style of the *Practical Essays on Medical Education,* say, to the rather orotund or "declamatory" style of some of the "introductories." Not infrequently Drake's ardent, poetic temperament led him to indulge in lush passages that are acceptable to neither the Anglo-Saxon nor the classical temperament. He had, in fact, every quality of mind and heart that a great writer must have; he forged for himself a more than adequate technical literary equipment, but seems to have lacked the ultimate discipline and taste of the pure master. It is perhaps no more than a commentary on the respective literary tastes of his time and ours that he seems to have come nearer to achieving a literary masterpiece in his "off-hand" memoirs than in any other of his published works. These works are so rich in that "weight and depth of thought" he himself admired in others that of almost any one of them it might be said, as Marshall recently said in these pages concerning one of them, "a single quotation from it defies selection."[31] Oddly enough, quotations from Drake often seem to do him a disservice, bringing into relief some of the literary defects mentioned above. He is almost certainly one of those writers who achieve their lasting effect not despite, but apart from, their literary style.

J. Marion Sims (1813-1883)

If Daniel Drake's literary qualities are perhaps seen at their best in his memoirs, almost the reverse seems to be the case with regard to the literary qualities of J. Marion Sims. The latter's *The Story of My Life,*[32] far better known probably than Drake's *Pioneer Life in Kentucky,* is a fine story, as winningly honest in its way as Drake's and full of good "doctor" talk, but its "off-hand" style comes perilously close to complete artlessness.

From his autobiography, we learn that Marion Sims was exposed, unwillingly, to a reasonably authentic classical education. But he was not studious, as Drake was, not ambitious as a young man to improve himself but only his material condition. He was nearly prevented from being graduated from College by his obstinate refusal to write the required compositions; his degree he owed, in fact, to the solicitude of a friend who, with Sims's acquiescence, wrote the compositions for him and turned them in with Sims's name attached as author. When he had yielded to persuasion and written his first professional paper,[33] Sims was so ashamed of it that he hid his copy of the journal in which it appeared, for fear it might be seen by his more literarily-inclined colleagues. His fears largely vanished, however, when one of them, discovering the article, said to him: "I have never read a thing so natural in my life as your description of the case . . . what you write comes natural, it seems." Sims appears not to have had any literary inhibitions thereafter.

"On the Treatment of Vesico-Vaginal Fistula,"[34] possibly Sims's most notable contribution, is on the whole an admirable literary job. The use of the first person singular lends a touch of informality that is in accord with the author's general style. The form, diction, syntax, punctuation, are nearly impeccable in accuracy and taste, and the whole presentation gives the impression of an author in full command of his means of communication.

Read, on the other hand, another of Sims's famous papers, the "Remarks on the Treatment of Gun-shot Wounds of the Abdomen in Relation to Modern Peritoneal Surgery,"[35] written a good many years later, and the impression obtained is likely to be quite different. This lengthy paper is lively, almost exciting, reading, but it is amorphous and fluent rather than disciplined in style and thought.

The evidence is so clear that we can hardly fail to jump to the conclusion that as a writer Sims was an exceptionally good talker. He was able, as his early colleague perceived, to transfer the quality of colloquial speech to his writing; but the speech, despite all its virtues, was not a highly cultivated one and, when so transferred, all its defects were mercilessly exposed for all time. Sims obviously was no sufferer from congenital word-blindness, but his whole history is indicative of a non-

literary type of mind—and the trouble with literature is that it demands a literary type of mind of one sort or another. One has the feeling that, when so classically stated a paper as that on vesico-vaginal fistula appears under the name of such a writer, one should go in search of a hidden hand. Notwithstanding all these strictures, Sims's writing has, even when it seems most nearly artless, a lucidity and vigor that some of his later colleagues might envy. It may not be highly literate, but it is almost never downright unliterate.

Henry Jacob Bigelow (1818-1890)

Just as we have ruled out of consideration here writers of American medical classics who were also writers in the field of fine letters, so ought we perhaps also to rule out the Boston-Harvard group, on the assumption that it would be practically an impossibility for these men (in the nineteenth century, that is) not to make a piece of minor literature out of even the most unpromising case-report. But to do so would be unjust to a group which has contributed not a little of historical interest to our literature.

Henry Jacob Bigelow, a somewhat bullish Boston Brahmin, was prepared for College at the Boston Latin School, entered Harvard at the age of fifteen, and at the age of twenty-eight published the paper that introduced ether anaesthesia to the world.[36] He had, obviously, every educational and environmental stimulus to the acquisition of a respectable prose style, and he reacted to them as one would expect. The result is that today one reads his paper with considerable gratitude for its literary qualities. The subject itself permitted the slightly dramatic approach it receives. The arrangement of the material seems at first reading a little wayward, but becomes reasonably logical on closer study. The diction and sentence structure are certainly those of a person on familiar terms with the resources and habits of his native language. Even the punctuation is remarkably tolerant toward those of us who read with the ear and the lungs as well as the eye. One notes with amusement untranslated quotations from the French (with some accents missing). Would readers of the *Boston Medical and Surgical Journal* have felt insulted at being offered a translation—or was this youthful former pupil of the great Louis putting on a bit of dog? In sum, one feels that the oddly sophisticated and authoritative style of this paper must have contributed not a little to the impression it made—as indeed it does to the interest of one reading it nearly a century later.

Walter Reed (1851-1902)

Walter Reed's researches in yellow fever were characterized by Welch as being in his judgment "the most valuable contributions to medicine and public hygiene which have ever been made in the country

with the exception of the discovery of anesthesia."[37] We may well close our inquiry by examining briefly the famous "Preliminary Note,"[38] coming at the turn of the century, in relationship to the cultural background of Walter Reed, the one of its joint authors who was responsible for the literary presentation of the researches.

All evidence seems to indicate that Reed had a rather exceptional educational background and that his was a distinctly scholarly, or at least scientific, temperament. His schooling was practically uninterrupted from his sixth through his seventeenth year; what is more important, its quality would seem to have been along the best classical lines. He early studied Latin, mathematics, and geography; at the University of Virginia he studied Greek with Professor Basil Gildersleeve, one of the greatest of American classical scholars. "His work was always good," says Kelly, "and he held a high place in all his classes."[39] Unable, for family reasons, to complete the full university course, he obtained permission to take the medical course and, at the age of seventeen, received his doctorate after one year's study, standing third in his class. (It should perhaps be observed that the medical course at the University of Virginia was regarded as maintaining a high standard, and most students devoted two years to it.) Reed had, moreover, what Kelly calls a passion for knowledge. "But, really, there is a charm in study which I fain must acknowledge. Perhaps I decide to dash aside the book and for once yield to refreshing sleep, but quicker than ever winged lightning cleaved heaven's vault the thought flashes through my mind that there are a thousand things in that cast-aside volume of which I am ignorant, a thousand unanswerable questions that may rise up against me in the day of my examination, to humble and mortify me. Wracked with a thousand fears, I tear open the book and eagerly scan its pages, determined to exhaust every effort, and, if need be, to suffer death rather than defeat."[40]

On the other hand, it is interesting to find Reed writing his future wife, a few years after his graduation, as follows: "To my utter astonishment he informed me that candidates must stand an examination in Latin, Greek, mathematics, and history, in addition to medical subjects. [Note: this refers to the examination of candidates for the post of army surgeon!] Horror of horrors! Imagine me conjugating an irregular verb, or telling what $x + y$ equals, or what year Rome was founded, or the battle of Marathon fought. Why the thing is impossible, I shall utterly fail."[41] [As of course he didn't.]

As for the "Preliminary Note," Truby says, "Since Carroll was sick and Agramonte absent, the work of preparing the report fell almost entirely to the president of the Board, Walter Reed."[42] "He hurriedly wrote a rough draft of his ideas and conclusions, read it over to Kean and all the rest of us . . . Criticism was invited . . . For a few days, Reed

worked early and late on the report, rewriting parts which did not satisfy him. He wrote it all with a pen as no stenographers were available. The final typing was done at Department Headquarters . . ."[43] A published letter from Reed to General Sternberg[44] requesting him to make specific changes in the typescript before publication well illustrates further the thought Reed devoted to the report and his concern to keep it on as strictly scientific a basis as possible. As the report was read at Indianapolis on October 22 and published in the October 27 number of the *Philadelphia Medical Journal,* it seems quite certain that Reed had no opportunity to read proof.

The "Preliminary Note" is on the whole, it seems to us, a respectable, but by no means distinguished, piece of prose. It is generally grammatical and clear, though occasionally a sentence betrays either haste or an inattentive ear and inadequate punctuation momentarily clouds the sense. One notes with interest Reed's use of some of the infelicitous shortcuts that pervade medical writing today; such, for instance, as the use of the word *case* in place of the word *patient:* "This particular mosquito has bitten a *severe* case of yellow fever . . ."

The suspicion is strong that Reed was unconsciously pointing the way which modern scientific writers were to follow. The discipline of his early classical training gave him a certain measure of control over his writing. But he was essentially a scientific investigator of the new school. He knew what he wanted to say and what he wanted not to say; but it seems doubtful that he entertained other than a purely utilitarian concept of the language in which he had his say. His advantage over so many of his followers was that he had a somewhat wider acquaintance than they with the meaning of words and the anatomy of language.

III

If this little exercise has taught us anything, it must be that good writing requires more than anything else a respect for language as a discipline. Even education on the classical system can sometimes fail, it seems clear, to inculcate the laws of language to the point that they become observed automatically; something more is required. Yet who, reading the American medical classics of the past century and comparing them with our contemporary classics, does not feel that the men of the older day were on the whole better equipped to disseminate their corner of knowledge through the most powerful medium available to us?

Now we recognize readily that the influence of the laboratory, with its language of symbols and formulas, reduces more and more the margin of opportunity for the writing of medical literature that is literature. The rise of Basic English may conceivably restrict this opportunity still further as time goes on. Neither of these contingencies, however, affects

the basic needs for the writing of respectable prose—a knowledge of the meaning of words and of the laws of syntax and punctuation. So long as our educators fail to recognize these as basic requirements for this medium of human intercommunication; so long as scientists subscribe to the easy doctrine that science is a world apart from the world of general culture; so long will there remain no hope of improvement in the literary quality of medical literature (or of any literature). One of the saddest features of our times is the failure to grasp the concept of language as the midwife of thought.

Laws are made and maintained (however much they may be modified) by the thoughtful in a civilized attempt to rise above chaos. The laws of language have such a purpose. Failure to recognize this purpose, and the justification of disregard for the laws of language on the specious grounds of expediency and lack of censure, lead ultimately and logically to a delightful state of anarchy in which every one writes for himself alone, because his colleagues are far too busy being "utilitarian" in *their* way to bother with studying other systems of utilitarianism. It will be a fine day, indeed, when the wheel turns once again and we realize how cheaply we have held our greatest natural gift, the gift of language, through which we share our hopes and desires, and our fractions of knowledge.

NOTES

1. See, for instance, *The New England Journal of Medicine 229:* 570, Sept. 30, 1943 (final paragraph of review of *Surgical Practice of the Lahey Clinic*); and Dr. Lahey's reply, p. 733 (issue dated Nov. 4, 1943). I am indebted to R. H. Baugh, one of our library assistants, for these references as well as for several other constructive (which includes destructive) suggestions during the preparation of this paper.
2. The inclusion of history and biography here, rather than in the category of "scientific works, or those written expressly to impart knowledge," makes this definition as debatable as most definitions are.
3. It might as well be admitted at the outset that this paper bristles with arbitrary definitions (or lack of them) and statements. I regret this, but give assurance that I am prepared to give ground easily at almost any point along the way.
4. *Eclectic Repertory, and Analytical Review 7:* 242-244, 1817.
5. *Ibid. 9:* 546-553, 1819.
6. RIDENBAUGH, MARY YOUNG. *The Biography of Ephraim McDowell, M.D.* New York, Webster, 1890.
7. ——— *op. cit.*, pp. 57-58.
8. Plattsburg, Allen, 1833.
9. See "Proposals for publishing by subscription, a new work, to be entitled Observations and Experiments . . . ," reproduced in: Myer, Jesse S. *A New Print of* Life and Letters of Dr. William Beaumont. St. Louis, Mosby, 1939. Pp. 184-185.
10. MYER, *op. cit.*, p. 13.
11. ———, *op. cit.*, p. 207.
12. ———, *op. cit.*, pp. 104-105.
13. *Medical Recorder 8:* 14-19, 1825 (authorship mistakenly assigned to Gen. Lovell). This journal is referred to by Osler and others incorrectly as the *Philadelphia Medical Recorder.*

14. MYER, *op. cit.*, p. 119.
15. See n. 12.
16. See n. 13.
17. *American Journal of the Medical Sciences 14:* 117-149, 1834.
18. Osler's remark, "While it is stated to be a new and improved edition, so far as I can gather it is a verbatim reprint, with no additional observations, but with a good many minor corrections," seems strange in view of the statement, in the second paragraph of the preface to the second edition, that "this second is simply a reprint, with a few verbal corrections, of the first edition." Osler's "A Pioneer American Physiologist" in: Beaumont, William. *Experiments and Observations.* . . . Reprinted on the occasion of the XIIIth International Physiological Congress. Boston, 1929. P. xxii.
19. Cincinnati, Clarke, 1870.
20. By which he meant not that they could not read but that they were people with very little literary training.
21. Drake's *Pioneer Life in Kentucky,* p. 166.
22. *Ibid.,* p. 154 .
23. *Ibid.,* p. 167.
24. Quite obviously the word *epistle* was used calculatedly, to drive home his point, and not spontaneously, as Drake would have his readers believe.
25. *Ibid.,* p. 128.
26. *Ibid.,* p. 62.
27. *Ibid.,* p. 109.
28. *Ibid.,* p. 172.
29. *Ibid.,* p. 54.
30. JUETTNER, OTTO. *Daniel Drake and His Followers.* Cincinnati, Harvey, c1909. P. 82.
31. MARSHALL, MARY LOUISE, "The Versatile Genius of Daniel Drake," *Bulletin of the Medical Library Association 31:* 299, 1943.
32. New York, Appleton, 1884.
33. As Sims himself refers to this paper, "Double Congenital Hare-lip—Absence of the Superior Incisors, and Their Portion of Alveolar Process," as having appeared in the *Journal of Dental Surgery* in 1846; and Kelly (*Dictionary of National Biography*) places it in the *Journal of Dental Surgery,* Sept. 1845, it may be worth while to note that the paper really appeared in the *American Journal of Dental Science,* vol. 5, pp. 51-56, Sept. 1844. The title does not appear in the list of Sims's writings appended to the *Story.* I am indebted to Miss Margaret Gayley Palmer for assistance in tracking down this paper.
34. *American Journal of the Medical Sciences n.s. 23:* 59-82, 1852.
35. *British Medical Journal 2:* 925, 1881, etc. This seems to be the same "great" paper that Wyeth (in Kelly and Burrage) and Garrison refer to under the title: "The Careful Aseptic Invasion of the Peritoneal Cavity for the Arrest of Hemorrhage, the Suture of Intestinal Wounds and the Cleansing of the Peritoneal Cavity, and for All Peritoneal Conditions."
36. "Insensibility during Surgical Operations Produced by Inhalation," *Boston Medical and Surgical Journal 35:* 309-317, 1846.
37. Quoted by Trudy, Albert E. *Memoir of Walter Reed* . . . New York, Hoeber, 1943. P. 232.
38. *Philadelphia Medical Journal 6:* 790-796, 1900.
39. KELLY, HOWARD A. *Walter Reed and Yellow Fever.* 3d ed. Baltimore, Norman, Remington, c1923. P. 6.
40. ———, *op. cit.,* p. 17.
41. ———, p. 16.
42. Truby, *op. cit.,* p. 129.
43. ———, p. 128.
44. Quoted by Truby, p. 133. Evidently not all the changes requested by Reed were made, incidentally, as a comparison of the letter and the published report shows.

The American Physician as Poet

By Henry Schuman

> The pen (so springs the constant hope
> Of all devout physicians)
> Is mightier than the stethoscope
> And runs to more editions.
> So while he's waged bacillic wars
> Or sewed a clever suture,
> His mind has hummed with metaphors
> Laid up against the future.
>
> Phillis McGinley

Literary history reveals that medicine has produced all sorts of imaginative writers, including poets, playwrights, and novelists. The medico-literary writer stems from a long and broad tradition; when we catch a doctor attuned to the literary infinite, therefore, we must experience the opposite of the surprise expressed by Samuel Johnson about a woman's preaching;—"like a dog walking on his hind legs. It is not done well, but you are surprised to find it done at all." After all, Apollo was not only the god of medicine, but the president of Parnassus.

"In most men," Sainte-Beuve tells us, "there is a poet who dies young while the rest of the man survives." In the physician, whose daily life, whether in practice or research, is assuredly one of unremitting toil, the poet has managed to survive. Pointed observation confirming this fact has been made by the British essayist, Sir Edmund Gosse. "Something very subtle links the practice of literature to the profession of medicine . . . what it is I cannot tell, only the fact subsists that if you see a medical man meditating alone, there are ten chances that he is busy composing a sonnet to one chance that an engineer or a bank manager or a brewer is doing the same." He might have added lawyers and advertising men. The reasons for the truth of Sir Edmund's declaration lead to interesting speculation.

I should like first to submit the interpolation that I use the word "poetry" in the wide sense of any imaginative work, the sense in which it was used by Sir Philip Sidney in his famous *Defense of Poesie,* a masterpiece of musical prose. I speak of poetry as one of those fundamental

human impulses which make for the development of the race; of the wide sense in which it has played as important a part as science. Wordsworth, in his magnificent manifesto in behalf of a new poetry, has pointed up the ideal relationship between the two:

> The knowledge both of the Poet and the Man of Science is pleasure, but the knowledge of the one cleaves to us as a necessary part of our existence, our natural and inalienable inheritance; the other is a personal and individual acquisition, slow to come to us, and by no habitual and direct sympathy connecting us with our fellow beings. The Man of Science seeks truth as a remote and unknown benefactor; he cherishes it and loves it in his solitude. The Poet, singing a song in which all human beings may join with him, rejoices in the presence of truth as our visible friend and hourly companion.

Wordsworth continues in a vein trenchantly pertinent to our own time:

> In spite of difference of soil and climate, of language and manners, of laws and customs; in spite of things silently gone out of mind, and things violently destroyed; the Poet binds together by passion and knowledge the vast empire of human society, as it is spread over the whole earth over all time.

What man of good will would not choose that as a method to establish harmony and accord in a post-war world! Unfortunately, the times are not precisely hospitable for the creation of poetry, and it is far more likely that science will act as a binding tie, founded on a pragmatic interdependence, if nothing more. This thought was exemplified in a splendid Christmas Eve broadcast to Great Britain by Dr. John F. Fulton centering on the theme of international co-operation in science throughout the United Nations, and expressing the hope that out of that collaboration in the years to come would emerge a deeper and more enduring understanding between peoples.

But why, to return, the intimate connection between the doctor and poetry? *Bibliotheca Osleriana,*—a noteworthy example of a catalogue expressive of the rich personalities of both collector and cataloguer,—under the heading *Bibliotheca literaria,* lists 1310 items which bear an association between medicine and literature. Dr. Cushing brought together a fine collection of poems by medical men. The eminent medical scholar, Dr. Robert Fletcher, had one of the choicest collections of English and American verse in existence. Dr. Charles L. Dana made a comprehensive collection of medical poetry, embodied in his charming volume, *Poetry and the Doctors,* an honorable link to a similar study, *De medicis poetis,* (1669), made 247 years earlier by the Danish anatomist, Thomas Bartholinus. All this, and more, add up to a splendid heritage indeed, which has suckled and nourished our American medical poets of the past, and will serve, let us hope, as a vital springboard for our Fracastoros, Hallers and Holmeses of the future.

The basis for the tradition of the physician as poet, we may now say, goes back to Apollo, a thesis warmly defended in the 17th century by a certain Dr. Carolus Sponius, Physician to Louis XIV, whose famous *Myologia* is a book of verses in which he described in hexameters the origin and insertion of the muscles of the human body. If, writes the editor in the preface to this work, Apollo is the president of Parnassus no less than the god of medicine, "it is no wonder that in later ages many of the children of medicine, afflated with the divine fire, tried to express the mysteries of their art in verse and to contribute to the world their salutary songs. . . . It is not possible that those chosen ones would have tortured themselves to form their language into verse if it had not been an easier and happier way than to have put it in prose. For it is admitted that *facts are more easily retained if put in a poetic form*" (my italics). Not only was this principle held in general belief, but to it ran the corollary that great truths came through the poet's inspiration and must have poetic form. Hence one finds the philosophy of one of the early fathers of medicine, Empedocles (B.C. 500) patterned forth in heroic verse. A later Greek physician, Nicander, wrote much didactic poetry to which references are found in Pliny, Dioscorides and Plutarch. In the Middle Ages we have the setting for one of the most popular and longest-lived of this type of poem, the *Regimen Sanitatis Salerni* (1100 A.D.?), a compilation from previous works of similar kind.

In the renaissance the poet-doctor tradition bore splendid fruit. Fracastorius (1484-1553) spaded up the term *Syphilis,* a word it has been forbidden to call a spade until recent times in the public prints by our guardians of public morals. He invented the word as the title of his famous poem, *Syphilis sive Morbus Gallicus* (1530), in which he described in original terms the symptoms and ravages of the dread disease, the origin of which more than 450 years ago constituted one of the disputed elements contributing to the disunity of nations. Rabelais (1490-1553), priest as well as physician, is best known, of course, by his immortal humorous works, *Gargantua* and *Pantagruel,* which are not only filled with all manner of medical lore, but represent renaissance humanism in the broadest sense. Vesalius himself, the quadricentenary of whose *Fabrica* was signally marked everywhere last year, yielded to the poetic urge. In the introduction to an English translation of the *Epitome* (in manuscript), Professor Lind writes: "His efforts in poetry may be guaged by the epigram *Ad Candidum Lectorem* in the *Epistola* of 1539, a competent but not inspired piece of humanist verse. His distich on the number of bones in the human body was plagiarised by several people and finally interpolated as verses 1627 and 1628 into the text of the famous medical poem, the *Schola Salernitana.*" And Ambroise Paré (1510-1590) wrote sonnets and short verses in his various works.

World literature is shot through with the names of famed writers who were influenced by medical training and work. The foremost poet with a medical qualification was, of course, John Keats, "the greatest of Shakespeare's successors." In most English anthologies are found the poems of Dr. Thomas Campion (d. 1619) and Dr. Henry Vaughan (1621-1695). In 18th century England we come upon the poetic works of Smollett, Armstrong, Aiken, Akenside, Goldsmith, Garth, and a number of minor poets. In 19th century Britain, the medical poetry was of an improved quality, given forth by men who had their being essentially in medical work: Jenner, Beddoes, John Brown, Erasmus Darwin, David Moir (Delta), Henry Halford, John Leyden, Robert Bridges, Sir Ronald Ross, Conan Doyle, Henry Head, and Sir Charles Sherrington. In tongues other than English, the list of great names is long and impressive: Redi, Bellini, Haller, Werlhof, Schiller, Chekhov, Sue, Zimmerman, Kerner, Schnitzler, etc.

AMERICAN MEDICAL POETS

BARKER, Creighton (1892-). Dr. Barker of the Yale School of Medicine has written some excellent articles on certain aspects of American regional medical history. His poetic flight found its way into a little volume of verse entitled *Thunder in the North,* published in 1932.

BIGELOW, Jacob (1787-1879), the famous Massachusetts botanist, perpetrated a column of satirical verse called *Eolopesis,* published anonymously in 1855, in which most of the literary men of New England, including Holmes, were richly taken off.

BRUHL, Gustav (1826-1903), was the first, and for a time the only German physician in Chicago, who became a popular poet, ranking as one of the foremost German poets of America. His subjects were derived chiefly from the tales and myths of the Indians, as well as the achievements of the early German settlers. He wrote *Charlotte* and *Die Helden des Amazon;* other verses are collected in two volumes entitled, respectively, *Poesien des Urwalds* and *Abendglocken.*

BRUNS, John Dickson (1836-1883), took his degree from the Medical College of Charleston, later becoming professor of physiology and pathology in the New Orleans School of Medicine. Dr. Bruns gained fame as poet and scholar, especially for his famous last appeal in behalf of Charleston, *The Foe at the Gates.*

CHIVERS, Thomas Holly (1807-1858), Georgia-born poet who took his degree at Transylvania, began to write verse at an early age. His poems in *Nacoochee* (1837) attracted Poe's attention, and the resemblance of his work to Poe's has made for an extensive critical literature of the who-plagiarized-whom school.

CHURCH, Benjamin (1734-1776), the first Surgeon-General of the American Army, wrote, soon after graduating from Harvard in 1754, two poems which appeared in a collection in celebration of the

accession of George III. This may be said to have been the clue to his Tory outlook and to his subsequent traitorous behavior. In 1757 he wrote *The Church,* a highly derivative poem in which, though dwelling in a "small American town, he longs for a house in the country." He apparently achieved this ambition in 1768 at Raynham, Mass. His writings seemed to support the Whig cause, but it is thought that he parodied the patriotic songs in favor of the British and that his political essays were answered from the Tory side by his own pen. *The Times . . . by an American* (1765), a satire on the Stamp Act, has been attributed to him. Church was tried by court martial, October 4, 1775, Washington presiding, and was found guilty of "holding criminal correspondence with the enemy."

COLES, Abraham (1813-1891), New Jersey scholar-poet-physician, is represented by four published volumes of poetry in Dr. Dana's collection: *Dies Irae in Thirteen Original Versions* (1860), *The Evangel* (1874), *The Microcosm and other Poems* (1866), and *A New Rendering of the Hebrew Psalms into English Verse* (1888).

DANA, Charles Loomis (1852-1936), famous neurologist, was profoundly interested in the history of medicine, and made a great collection of medical poetry, which he bodied forth in a charming volume entitled, *Poetry and the Doctors* (1916).

DRAKE, Daniel (1785-1852), was not only inspired by the life of his beloved Mississippi valley to write a good deal of prose poetry, but composed a few poems in verse, of which Miss Marshall has given some account and a list in her article in the October 1943 number of this Bulletin.

DRAKE, Joseph Rodman (1795-1820), wrote a famous poem published after his death, entitled *The Culprit Fay* (1835), which is considered by some the best and in fact the one fairy story in American verse. Drake's life, it is of passing interest to note, happened nearly to coincide with that of Keats.

EARLE, Pliny (1809-1892), famous alienist, was a poet in his younger years, contributing verses to the Worcester *Talisman, Spy,* and other local periodicals, some of which he gathered into his Philadelphia volume of 1841, *Marathon, and other Poems.*

EMMONS, Richard, about whom little is discoverable, indicated himself an M.D. on the title-page of two of his works which I have examined. The first of these was *The Fredoniad: or Independence Preserved, an Epick Poem on the late War of 1812* (1827), in no less than four octavo volumes, dedicated to General Lafayette. The preface is dated from Great Crossing, Kentucky. Three years later he published a much slighter work, but still in the intensely patriotic vein, this time dedicated to James Madison, entitled *The National Jubilee, and other Miscellaneous Poems* (1830).

ENGLISH, Thomas Dunn (1918-1902), graduate M.D. at the

University of Pennsylvania, is best remembered abroad as well as in America as the author of *Ben Bolt*. Dr. English gained immediate fame when the song was set to music, and was first sung in a Pittsburgh theatre to a German melody. It underwent a second wave of popularity when given prominence in Du Maurier's *Trilby* (1894), when again, it was the song of the hour. The name of Dr. English remains further memorable as the object of vitriolic critical assaults by Poe.

ERICHSEN, Hugo (1860-), Detroit physician, brought together an anthology of medical poetry, called *Medical Rhymes* (1884).

FIELD, Edward Mann (1823-1888), studied medicine with Dr. Daniel McRuer of Bangor (said to have been the first in this country to propose artificial pneumothorax), and received his degree at Jefferson Medical College in 1849. He is said to have possessed great poetical ability and to have written frequent "occasional" poems of admirable quality.

GOULD, George Milbry (1848-1922), the noted Philadelphia ophthalmologist, had literary aspirations which involved him in a bitter and vituperative controversy with the exotic Lafcadio Hearn. He wrote a good deal of by-path medical history, but the only volume of verse listed in Dr. Dana's collection is *An Autumn Singer* (1897).

GRIDLEY, Selah, identified himself as an M.D. on the title-page of a small volume of verse published at Exeter, N.H., in 1828, entitled *The Mill of the Muses*. Perhaps its most distinguished feature is an Elegy on General Washington.

HOLMES, Oliver Wendell (1809-1894), assured himself a place in the annals of medical science with his *Contagiousness of Puerperal Fever* (1843), the centenary of which was celebrated last year. As Van Wyck Brooks wittily puts it, "he was a poet laureate by avocation, always prepared to present his bouquet at a banquet or an ode at a county fair." It is worthy of special note that Holmes began his literary career as a poet, only turning to prose in middle life (S. Weir Mitchell, it is timely to observe, began *his* literary career as *poet* in middle life.) Brooks says further of Holmes:

> . . . the doctor never forgot that he was a doctor, even when he felt most the poet. And he never forgot that he was a poet . . . For the doctor was a poet, for all he could "write so funny," a solid poet whose fruit was never green. He had observed that American poets did not commonly ripen well. They lacked severe standards; they had no sound thermometers for gauging their talents; and surely, the doctor thought, the United States furnished the greatest market in the world for the green fruit of the intellect. There were certain things, he felt, that were good for nothing until they had been kept a long while, and some that were good for nothing until they had been long kept and *used;* wine, meerschaum pipes and violins. A poem was like a violin, the parts of which were strangers to one another till they had learned to vibrate in harmony. . . . So it was with the doctor's poems. Whatever else they were, they were always ripe.

HOPKINS, Lemuel (1750-1801), although a much better physician than poet, is generally remembered chiefly for his collaboration with the other "Hartford Wits" in the production of political satires which had considerable influence in the unsettled period in which they were written.

MERCIER, Alfred (1816-1894), Louisiana born, was sent to France in his 14th year to be educated. There in 1842 he published a volume of poems, chief of which were "La Rose de Smyrne" and "L'Ermite de Niagre" both highly praised in the *Revue de Paris.*

MITCHELL, John Kearsley (1793-1858), apparently exposed his more famous son Weir to the contagion of versifying, for he was himself the author of an ambitious attempt at an epic, called *Indecision and other Tales* (1839), his sole poetic flight. It contains a 3-page dedicatory poem to Nathaniel Chapman, done in the Robert Burns manner.

MITCHELL, S. Weir (1829-1914), who didn't enter upon his literary career until he was fifty, evoked the following observation from Osler: "Occasionally, a well-known medical man will dabble in pure literature, and will sometimes, as in the case of Dr. Weir Mitchell, attain a success as remarkable as that which he has had in his profession. Put his writings on the shelves—they illustrate his breadth and his strength."

MONETTE, John Wesley (1803-1851), received his medical diploma from Transylvania in 1825. He wrote a poem of some 250 lines, "Friendship," which appeared in the Natchez *Gazette* in August 1825. Two other slight poetical efforts are traced to him—"Ode to July 4, 1820" and "A Satirical Poem." Monette was one of the first to appreciate the share which the great central valley of the Mississippi River had in the history of the United States.

MOORE, Merrill (1903-), Tennessee-born psychiatrist, has a facile poetic pen which has accounted thus far for numerous volumes of verse.

ORDONAUX, John (1830-1908), a New Yorker widely known as a writer on legal medicine, possessed sufficient poetic energy to do an excellent English version of the *Regimen Sanitatis Salernitanaum* (1870). He was also a contributor of several original translations to *Horace . . . Presented to Modern Readers,* edited by C. L. and J. C. Dana (1908).

PALMER, John Williamson (1825-1906), graduate M.D. from the University of Maryland in 1846, achieved fame essentially as a lyric poet, though he also wrote considerable prose. His most famous poem is the Confederate war song "Stonewall Jackson's Way." No other poem approaches this in adequacy as an expression of Jackson—his personal appearance, his religious faith, his almost magical control of his men.

PETERSON, Frederick (1859-), has a poetic output extending to several slim volumes. Three of them are listed in Dr. Dana's Checklist—*In the Shade of Ygdrasie* (1893), *Poems and Swedish Translations*

(1883), and *Song of the Latter Day,* the last described by Dr. Dana as "an attempt at a 20th century Rubaiyat by a Charakan."

PRIME, Dr. Benjamin Young (1733-1791), who took his degree at Leyden in 1764, published in London the same year a pamphlet of 94 pages entitled *THE PATRIOT MUSE, or Poems on Some of the Principal Events of the Late War . . . by an American Gentleman.* Among the poems is one on the capture of Quebec, 1759, melodramatically entitled "Britain's Glory, or Gallic Pride Humbled." Upon the passage of the Stamp Act he wrote "A Song for the Sons of Liberty in New York." In 1791 Prime wrote a parody of his earlier poem on the capture of Quebec using the title "Columbia's Glory, or British Pride Humbled . . . a Poem on the American Revolution." It consisted of 1441 lines reviewing the events of the war, praising Washington (he wrote a fine eulogy on Washington before he died in 1791) and denouncing the enemies of America.

RICORD, Phillippe (1799-1889), characterized by Holmes as "the Voltaire of pelvic literature, a sceptic as to the morality of the race in general, who would have submitted Diana to treatment with his mineral specifics, and ordered a course of blue pills for the Vestal Virgins," is cited as a poet by Garrison (*Physicians' Anthology,* 1920, pp. xi-xii) for a dizain "unique of its kind," which he reprints, and possessed of the "spiritual quality of French verse at its best."

SHAW, John (1778-1809), of Annapolis, and surgeon in the U. S. Navy, published a number of poems and left a manuscript of his travels and life in Africa. The former were collected and republished in a volume in 1810 *Poems by John Shaw,* preceded by a biographical memoir. The poetry is chiefly sentimental and patriotic.

SMITH, Andrew Heermance (1837-1910), graduate of the College of Physicians in New York, 1858, was the author of one volume of poetry, called *Sixes and Sevens,* containing the poem "Greeting to Dr. Holmes."

SMITH, Elihu Hubbard (1771-1798), practising Connecticut physician, became associated with the famous literary group at Hartford. To the "Echo" series of satiric skits produced by the group between 1791 and 1800, and published in the *American Mercury* (Hartford), Smith contributed one number, "Extracts from Democracy, an Epic Poem," by Aquiline Nimblechaps. In 1793 he spent several months with Charles Brockden Brown at Litchfield, who may have assisted him in publishing during the summer the first volume of *American Poems,* the earliest anthology of American poetry. Dr. Smith later settled as a physician in New York City where he gained considerable reputation, especially with his publication in 1795 of his *Letters to William Buel on the Fever* in which he held that the dread series of yellow fever epidemics in Philadelphia and New York was due to crowded and unsanitary

living conditions. He was also one of the founders, with Drs. Miller and Mitchell, of the first native American medical journal, the *Medical Repository*.

THOMPSON, Benjamin (1644-1714), a "learned schoolmaster and physician and the renowned poet of New England," was the earliest physician-poet on American soil. His chief work, *New England's Crises*, is an epic on King Phillip's War. His death is thus noticed in the Braintree Town Records: "Mr. Benj. Thompson, practitioner of physick for about 30 years, during which time he kept a grammar school in Boston, Charleston, and Braintree; having left a weary world, eight children and 28 grand-children. Deceased April 13th, 1714, and lieth buried in Roxbury, aged 72."

TICKNOR, Francis O. (1822-1874), was in charge, during the Civil War, of the hospital work at Columbus, Ga., and ministered to the needs of the soldiers, among them the brave Tennesseean whom he made immortal in "Little Giffen of Tennessee," published in 1867 in *The Land We Love*.

WARD, Thomas (1807-1873), took his M.D. at Rutgers in 1829. He devoted himself to music, poetry, and the fine arts, composing many ballads and comic operas. In 1842 he published a volume entitled *Passaic and Other Poems*, by Flaccus, a pseudonym familiar to contemporary readers of the New York *American*.

WELLES, Charles Stuart (1848-), was graduated M.D. at Dartmouth in 1884. He wrote both prose and poetry, the latter being chiefly contained in *The Lute and Lays* (1889).

WIGGLESWORTH, Rev. Michael (1631-1705), was a physician as well as a theologian and a poet. He was born in England, but emigrated to America, and graduated from Harvard at the age of twenty. His masterpiece, *The Day of Doom; or a Poetical Description of the Great and Last Judgment (1662)*, has come down to us as the "epic of New England puritanism."

WILLIAMS, William Carlos (1893-), is a practising physician at Rutherford, N.J. He has for many years been considered one of the outstanding stylists both in American poetry and prose, and a leader in the *avant garde* school of poetry. He has published many books.

WOOD, George Bacon (1797-1879), was a lover of books and science rather than society. His sole literary effort was an epic poem, *First and Last, a Poem to Illustrate the Ways of God to Man*. The following illuminating note written by H. C. Wood, is taken from the copy of this book contained in the library of the College of Physicians, Philadelphia: "Dr. George B. Wood had almost a mania for writing, and in his spare time, between his medical work, wrote on almost every subject; so that about a half to a bushel of manuscript was destroyed as worthless by his executors. When the Doctor conceived that possibly

he had poetical genius, he had the good sense to recognize that it was not wise to blur his medical reputation with an unsuccessful book of poetry, so he took the manuscript to London, had it secretly stereotyped without signature, brought the plates home, told his secret in confidence to Mr. J. B. Lippincott by whom they were printed and put on the market without anyone knowing who was the author except the two men. Of course the venture was a failure but the medical reputation was preserved."

AMERICAN MEDICAL FICTION-WRITERS

BIRD, Robert Montgomery (1806-1854), received his M.D. degree from the University of Pennsylvania in 1827, but evidenced no marked leaning toward medicine, and entered upon a career as writer, specializing in plays in the romantic genre. His famous play, *The Gladiator,* was first performed in New York, September 26, 1831, and five years later was chosen by Edwin Forrest as his opening bill. Forrest also produced *The Broker of Bogata,* and *Oralloosa* (1832), both among the most significant of American dramas. But discouraged by the meager financial reward for his plays, Bird turned to writing novels, the most popular of which was *Nick of the Woods, or the Jibbenainosan, A Tale of Kentucky* (1837). Bird's plays remained unpublished until 1917.

CARUTHERS, Dr. William Alexander (1800-1846), the "Virginian" who settled in Savannah, was the author of several historical novels—*The Cavaliers of Virginia* (1835), *The Knights of the Horse-Shoe* (1845), and a widely-known sketch, *Climbing the Natural Bridge* (1838).

EVERTS, Orpheus (1826-1903), graduate psychiatrist from the Medical College of Indiana in 1846, made several literary efforts, none of which won him much acclaim. *Giles and Company* was a novel illustrating some phases of heredity; *The Cliffords* was a philosophical allegory involving religion and science, and *Facts and Fancies,* an attempt at an epic in blank verse.

HAMMOND, William Alexander (1828-1900), neurologist and Surgeon-General of the U. S. Army, was also a playwright and novelist. His fiction includes *Robert Severne* (1867), *Dr. Grattan* (1884), *Mr. Oldmixon* (1885), *A Strong-Minded Woman* (1885), and *The Son of Perdition* (1898), the latter considered by some to be the best novel of Jesus ever written.

HOLMES, Oliver Wendell (1809-1894), as prose writer is represented by four volumes of essays which began with the *Autocrat* in 1857, and three novels. In the essays, Barrett Wendell has written, one feels the shrewd, swift, volatile mind of a witty man of the world. The fiction however, medicated throughout, as Holmes himself had it, beginning with *Elsie Venner* (1861), showed a "marked inferiority in his

prose to the *Autocrat*" (M. A. DeWolfe Howe). Then came *The Guardian Angel* (1867), and lastly *A Mortal Antipathy* (1885), "so inchoate and unconvincing as a piece of fiction that Holmes's admirers had best avoid it." And, continues Mr. Howe, "The fact is that Holmes, never a novelist, could not have been expected at 76 to make a successful venture into fiction." But if a failure as a fictioneer, he more than made up for it by his brilliance at conversation, which he considered one of the arts, and of which he was a master. His talk, according to Brooks, was the eighth wonder of the Boston world, this in the period of the New England renaissance, with Boston the country's intellectual center.

LLOYD, John Uri (1849-1936), famous Ohio pharmacologist, received the Remington medal in 1920 for research work in colloidal chemistry. He has written a number of novels including *Etidorpha* (1895), and *Springtown on the Pike* (1900).

MAYO, William Starbuck (1812-1895), practiced in New York City. He had an astonishing success with his first novel *Kaloolah* (1849), and *The Berber* (1850), both stories of wild adventure in Africa. *Kaloolah* has been coupled by some critics with Melville's *Typee*.

MERCIER, Alfred (1816-1894), born in Louisiana, was better known as a writer than a doctor. Educated in France, he published most of his literary output there. His works of fiction include *Le Fou de Perme* (1873), *La Fille du Prêtre* (1877), *l'Habitation de St. Ybars* (1881), and *Johnelle* (1891). Dr. Mercier was outstandingly skilful in handling the Creole patois.

MITCHELL, S. Weir (1829-1914), was most prolific as a writer of fiction. His novels are largely historical, most of them with the American Revolutionary period as background. *Hugh Wynne* is probably his most popularly-known book, though by no means his best. The work most replete with medical color is *The Red City*, containing as it does an excellent picture of early yellow fever in Philadelphia. For a work of surprisingly delicate satire and charm, I strongly recommended his *Autobiography of a Quack*.

SHECUT, John Linnaeus Edward Whitridge (1770-1836), has, as can be seen, the sort of name which, once written, there remains little to be added, unless it were something salient indeed. In Dr. Shecut's case, it is that he was a Charleston, S.C., man. He studied under Dr. David Ramsay, favorite pupil of Rush, furthered his medical education in Philadelphia, and was the author of two novels, *Ish-hoo-ju-lut-sche; or The Eagle of the Mohawks* (2 vols., 1841), and *The Scout; or The Fast of St. Nicholas* (1844).

WATERHOUSE, Benjamin (1754-1846), the first to introduce vaccination into the United States, is credited with a romantic narrative, *A Journal of a Young Man of Massachusetts* (1816), the story of a

surgeon captured by the British in the War of 1812 and confined to Dartmoor Prison. The book seems to be a first-hand account, written by the doctor of a small merchant ship, but Waterhouse may have edited or even augmented the manuscript.

WHITTAKER, James Thomas (1843-1900), famous Cincinnati physician, gave way but once to the writing impulse in the form of a novel, called *Exiled for Lèse Majesté* (1898), a romance.

I have confined my survey of the American doctor to his rôles as poet and fiction-writer. There remain most fertile fields of study of the American doctor as medical historian, biographer, essayist, philosopher, and (legion is his name) autobiographer.

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Arnold Klebs as Humanistic Scholar

By LEONA BAUMGARTNER, M.D.

ARNOLD CARL KLEBS, medical historian, bibliographer and authority on 15th century scientific and medical literature, died March 6, 1943, at the age of 72. He was the son of Edwin Klebs, the bacteriologist and pathologist, whose brilliant investigations foreshadowed many of the most important discoveries in this field in the late 19th century. Arnold Klebs was born in Berne, Switzerland, March 17, 1870. His father was then attached to the medical faculty there, but was soon destined to move his small family to several other universities. In 1872 he succeeded von Recklinghausen in Würzburg; after a year there he moved to Prague and back again to Zürich by 1882. Young Arnold thus had his elementary schooling and attended the Imperial Gymnasium in Prague but was finally graduated from the Gymnasium in Zürich in 1888. His home in these years was a meeting place for the several brilliant students of his father (among whom were numbered Ernst Ziegler, Hanau, von Jaksch, Eppinger, Koster, Sazka) and many of the best known writers and artists of the day. In later years he often recalled these meetings and wove anecdotes of these days into his tales of contemporary artistic or scientific achievements. Subsequently Arnold Klebs' own villa, Les Terrasses, on the shore of Lake Geneva similarly welcomed scientists and scholars, writers and artists from all Europe and America (Fig. 1).

In 1894 Klebs took his state examinations in medicine and the following year received his degree from Basel. He assisted in the Polyclinic there and in pathology at Zürich before he followed his father to America in 1896.* From 1896 to 1909 he practised in Chicago, specializing in tuberculosis, writing actively on the subject and directing the Chicago Tuberculosis Institute. Then because he "had become tired of the forward hustle of America and longed for . . . a clearer backward view" he returned to Europe in 1909 to devote the rest of his life largely to medical history.

In June 1898 he had married Margaret Forbes of Milton, Massachusetts, who died some weeks after the birth of their only child, Sarah Malcolm Klebs. Before he returned to Europe he married Mrs. Harriet K. Newell of Chicago who is still in Switzerland.

* Incidents of these American years have been recorded elsewhere.[1]

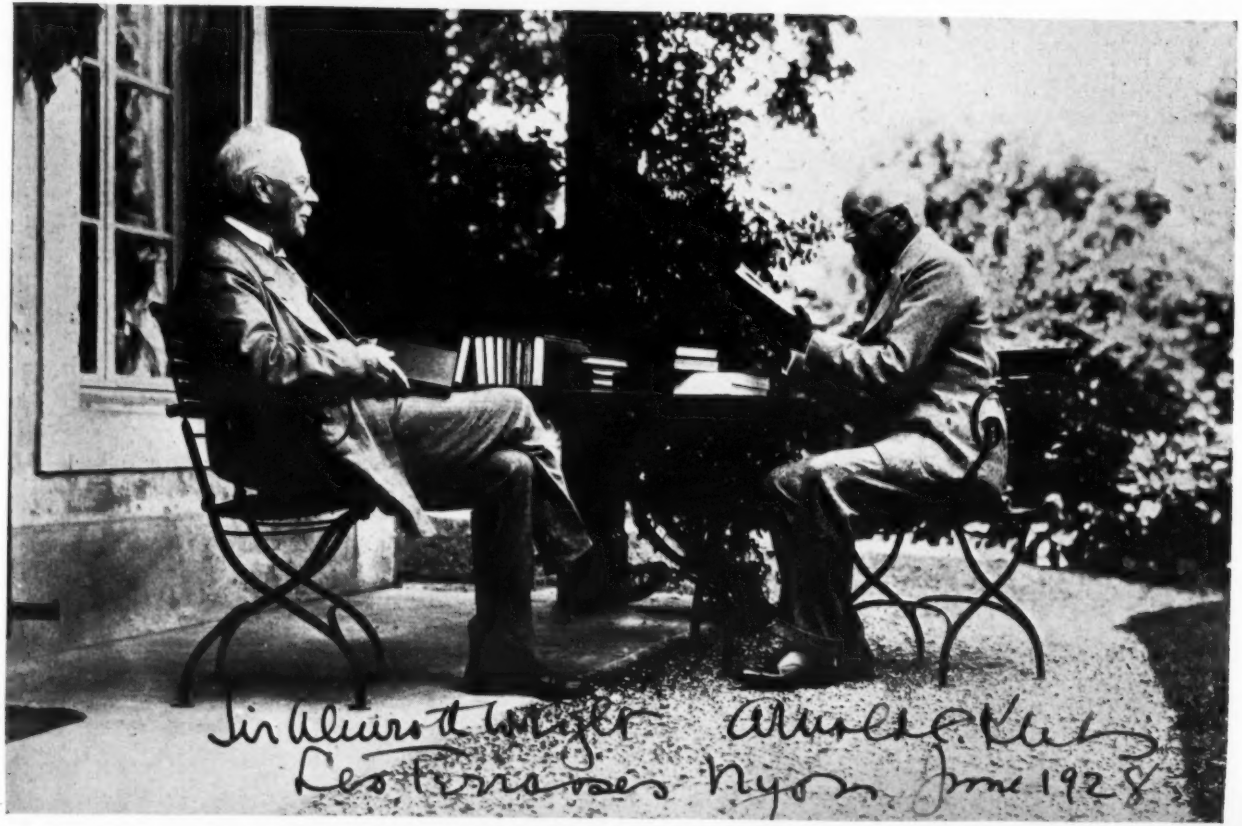

FIG. 1. Sir Almroth Wright and Arnold C. Klebs at Les Terrasses, June, 1928.
Reproduced from a copy in the Library of the New York Academy of Medicine.

Klebs spent the war years 1915-18 in Washington and was also in New York in 1918-19 and 1926-27. But he made his headquarters at Nyon in a villa once occupied by D'Annunzio. Here, except for almost annual visits to America, he worked in an ivy-covered library—a small two-storied structure with balconies, and the line over the door from Leonardo "If thou art alone, thou wilt be wholly thyself."

Largely from these rooms came Klebs' 52 published works on the history of medicine, a list of which was collected on the occasion of his 70th birthday and printed in his Festschrift.[2] His principal contributions lay in his studies of incunabula, herbals, variolation, and plague tracts. Of greatest value to medical historians is his short-title list of medical and scientific incunabula;[3] simple and concise in its arrangement it permits of quick identification and it can be relied upon for almost unfailing accuracy. This, however, was but the prolegomena for a larger work in which were to be gathered the vast body of information on the incunabula of medicine and science which he had accumulated throughout his thirty years of study. It is to be hoped that these materials may yet be made available to students. Since he was a perfectionist it was always difficult for Dr. Klebs to complete anything for publication; inevitably he found some additional point which, if investigated, might throw more light on the problem under discussion.

Klebs was a great friend of Osler, Cushing, and Welch and, in his later years, of John Fulton. He had named Osler and Sudhoff as having had the greatest influence on his career.

> You are quite right when you say that the strongest influences on my later working life came from Osler and Sudhoff, but I would not make them responsible for the little I turned out. I lacked Osler's aequanimitas and Sudhoff's tremendous working capacity and so by approaching them I tried to compensate for my defects. You know in the main I am oriented aesthetically and on this plane I have never found a man who made a greater appeal than Osler. He seemed to do, say, and write everything just in the right beautiful and harmonious way. (A. C. K. to Henry Sigerist, April 12, 1940.)

With Osler, Welch and Cushing, he was inevitably at home, for with them he found the kind of graciousness, humor and gaiety that were part of his own being. He also knew Karl Sudhoff well, and as he himself put it, "a close relationship (between us) lasted to his end—which was most delightful up to the fateful 1914 when, for me curiously enough, all human relations became modified."

Dr. Klebs' letters to his many friends are voluminous and seldom is there one which is without interest to the anonymous reader. Here are wit, philosophy and bits of knowledge of books, history, art, personal anecdote and comments on current political events—all interwoven with the charm that his pen could bring.

Reproduced from a copy in the Library of the New York Academy of Medicine.

Book Collecting

Dr. Klebs has given several accounts of how his collection of books started. His father left him his own collection of classics in philosophy and art as well as most of the important monographs in pathology and bacteriology of the eighties and nineties. But after 1909 Klebs began to collect "in earnest" the bibliographical tools that were to become so important in his tracing of ideas backward and forward through the centuries, and the books or tracts that were landmarks in the subjects in which he was interested. Of book collecting itself, he had much to say—and always in his later years in the same vein, of which the following is characteristic:

> The X species has destroyed all that. Since its advent the collector had no need any more to soil his hands (or Osler's gray gloves as I still see them up there on the ladder in a Roman shop), all "desirable items" were now admirably catalogued, every imaginable collector's desire was lovingly anticipated, new "values" were created and the busy practitioner who wanted to keep up with the highbrow Jones could start a collection just by marking his catalogues in the easy comfort of his fireplace and inspired by highball and pipe. A new type had arisen and it was called the Medical Historian, or the piffling discriminator or Medical Bibliographer. These are the benefactions to scientific scholarship of which X was so proud. It's Money vs. Value.

Klebs' own collection of some 14,390 volumes has been left to the Yale Medical Library. Before 1913 he says he had been interested in an institute for the study of history of science in Baltimore, but at that time it came to naught. Later (May 18, 1930) the idea reappeared.

> What I said to you about the desirability of an Institute such as Popsey's but at Yale has entirely sprung out of my fertile imagination. The product, I fear, is not fully armed like Athene, but we may manage to put something on her if we try. (A. C. K. to J. F. Fulton)

But not until after 1933 did Cushing and Fulton manage to "arm Athene." Their efforts led to the building of a beautiful historical library in New Haven where Arnold Klebs' books will rest, when they can be brought from Europe. Dr. Klebs saw only the plans of this tripartite library, but in course of making those plans he wrote a lengthy account of the book collecting habits and motives of those who had inspired and co-operated in the venture.

> We three (Fulton, Cushing, Klebs) had fairly definite aims in our collecting of books. Of course Osler was our great inspirer. He, like Mead and other great collectors of medical books, especially in England, tried to bring together specimens of those works which were landmarks in the evolution of medical science. Osler ranged these books as of first, second and literary, historical, biographical, bibliographical, etc., interest, adding to them incunabula because of their value as printed monuments. . . .

There is a certain naiveté in the evaluation expressed by the ranging of the *bibliotheca prima* and *secunda*. Osler knew very well that in this fickle world the only thing that remains is change, but he thought that heroes of thought deserved worshipping like any others and the act was inspiring to students. His interest was with the man who thought, practised and wrote, more than in the ideas he developed or the discoveries he made. A clergyman's son, he liked to sermonize and here were fertile fields from which to harvest. And his essays were often gems.

Harvey Cushing also started out with the naive transatlantic love for ancient lore and he collected like a true bibliophile. The fun of bidding at the sales, the Chief pointed out, greatly appealed to his sporting instinct. But very soon he focussed his interests. To him as a surgeon the "anatomische Gedanke" in medicine was of outstanding importance, and that man who first got out a remarkable textbook on this subject, Vesalius, made an overwhelming appeal. He set out to get everything by and about him, books and pictures and what not. . . . In this field he had become expert, very different from Osler who deliberately remained the amateur.

It was early in 1923 when he acquired on my recommendation the pre-Vesalian Canano and we prepared for the issue of a facsimile edition (to which, later on, Streeter supplied a fine historical note, Florence, 1925) that he began to realize that the mere bibliophile accumulation of show pieces could never give a broad insight into the evolutionary trend of medicine, and that since such an insight seemed very much worth while it would be necessary for him to systematize and orient his collecting activity. To do this properly he lacked the space in Boston and especially the time which was abundantly occupied for ten other years. . . . Only after moving to New Haven did he find the space and leisure to devote himself to his other collections. For some years before, Dr. Welch had always hoped to persuade him to become his successor in History of Medicine in a chair that was established for him at Johns Hopkins, but Cushing preferred the less formal opportunities which his old Alma Mater provided. So from 1933 on, while never leaving out of sight his anatomical and especially Vesalian interests, he broadened considerably the circle of his desiderata, acquiring many most valuable incunabula and manuscripts. In this enterprise I was in constant consultation with him and many miles did we do together in search of these treasures, taking incidentally the scenes and landscapes where they had blossomed forth.

Of course, much will be said some day about Cushing's collecting in other fields than those above indicated, but they were the basis of the more scientific, if less bibliophile efforts. Naturally he paid much attention to the surgical authors, and especially to Ambroise Paré, Berengar and others. Nor did he resist the bibliophile prompting of gathering all or most of the editions of such a dubious genius as Nicholas Culpepper amounting to some 180 items, not contributions perhaps to solid knowledge, but eloquent signs surely of superstitious survivals amidst rising scientific precision.

John Fulton, the Chief's well beloved pupil at Peter Bent Brigham, later in the Oslerian atmosphere at Oxford, and finally as his colleague in Yale,

put almost the entire weight of his abounding energies to the experimental fathoming of life's secrets. That all thought in this field, though not equivalent was worthy of consideration, whether Assyrian, Greek, Latin, whether before or after our era, was a foregone conclusion with him under the gentle humanistic guidance of Sir Charles Sherrington. To them a Boyle, a Priestley, a Lavoisier, a Fracastor were not dead historical personages, but very live stimulating contemporaries, and so it came quite naturally that, aside from his immense labors which rapidly placed him in the forefront of physiologists and made him the head of a flourishing school of experimenters, he also collected, classified and analyzed the works and other deeds of these men. Bibliography in his hands became an instrument of precision for the investigation of the mind of man, especially in his scientific search. By the time he had reached the professorial chair at Yale just a little before Cushing also drifted there, the collection of books that had so to say crystallized in his footsteps had come to cover the literary productivity of sixteenth to eighteenth century scientists to a degree of fulness that few public libraries could equal. In a restrained but very important field he tried to do what Gesner and Haller had done for the entire literary output, not in the chaste simplicity of their form, but in the exuberant complexity of bibliographical detail that his friend Geoffrey Keynes had standardized for our age. Collecting facts at the operating table or collecting books at Sotheby's or elsewhere have become a conditioned reflex with him and the harvest has been very rich. . . .

When my father left America in 1900, he turned over most of his books to me—a large collection of classified monographs, journal series and the principal works of the Virchow school of pathological anatomy, to which, however, was added with particular insistence all that was bearing on bacterial etiology, which field occupied him mainly in pioneer work before Koch.

My father had always been interested in *belles lettres,* philosophy and art (classical and renaissance) and from earliest childhood I remember his colleagues and pupils, as well as literary men, artists, some of wide renown, passing through our house at Prague, Zürich and elsewhere. I still see before me in his study at Prague the handsome book cases in renaissance style of fine Hungarian oak which would make an interesting pendant to the Gothic cases H. C. inherited from his father. These cases have disappeared, but many of the books remain, most with notes and dedications from contemporaries. Many have wandered to America and back here again. When I moved to Ouchy from Chicago, I brought eighty book cases full. That was in 1909.

It was then and there that I began collecting in earnest. By this I mean that I went with determination to the book market to get written, printed and other documents, . . . dealing with the subjects of interest to me. I had already accumulated a pretty full apparatus of contemporary works (all the journal files also) of Tuberculosis and what was called the "crusade against the white plague." After 1909 when I published "Tuberculosis by American Authors," which Osler had asked me to edit, I considered Tuberculosis to have ceased to be a medical problem and could be dealt with by social agencies, but that as an example of an epidemic most intimately related to

phases in social evolution, its consideration from other points of view than those then prevailing (contagiosity, infectiousness) might reveal valuable insights. So I started and have been at it since to collect old works on consumption, phthisis, scrofula and other similar ailments which from earliest times had not only killed but debilitated man, . . .

My next effort in the collecting line was prompted by my "inherited" interest in infection and especially the rôle of animate contagion in the production of disease. Here my father's collection gave me the necessary theoretical background and I added what I could find of the curious anticipations of this theory. The avowed knowledge of a definite cause of disease naturally led to the search for a specific prevention and therapy. In this aspect the great historic experiment of preventive smallpox inoculation which preceded and directly induced Jenner's vaccination seemed most worthy of closer examination. The complacent acceptance of diminished morbidity and mortality from this disease, as the direct result of vaccination, did not carry conviction and suggested reexamination *ab ovo,* which is inoculation as a preventive operation empirically evolved. . . .

Incunabula are *rara et rarissima,* but there was not the prime motif of my interest. I saw here a literary domain strictly limited in time, beginning in mid-*quattrocento* and ending—arbitrarily, it is true—at midnight on December 31, 1500. Does the fact of their being the first machine-made books possibly affect their contents? The production of uniform, well-corrected texts, the more lucid arrangement of indexes and tables, the introduction of uniform drawings and other designs offered to the scientific thinker inestimable advantages of precision which the manuscript could not possibly fulfill. And precision was the watchword of advancing science. The *quattrocento,* it is true, did not produce much truly original work, but it reproduced in vastly improved form what was practically inaccessible to the growing number of students who wanted to devote themselves to professional studies.

During the 25 years that I have been occupied with these books, my interest for them has rather grown, but I realize that I have given to their bibliographical and especially typological investigation an amount of time which I could have employed more fruitfully on other subjects. I did not heed Billings' wise counsel not to do bibliographical work that could be done as well and possibly better by others who devoted their entire time to it. The fascination of type-studies and through them the determination of unknown printers was upon me and I must say it has brought me into contact with such interesting individuals as Pollard, Polain, Scholderer, Vuillième and Wilberforce Eames. But the work is too absorbing and time-consuming and requires a complete apparatus of relevant catalogues, bibliographies, type specimens, etc., etc. I brought together everything needed, and completed my relatively small stock of originals by photographic facsimiles so that few problems presented themselves that could not be solved on the spot. I have not encountered elsewhere a more handy and complete collection on the subject. Perhaps the time I spent on this side of the work was not entirely wasted because it brought me to my present realization that the man who has the fitness to study ideas and their historical application should leave bibliog-

raphy alone and train somebody else for it. In our time of photography the necessity of painstaking description of books—and this is the essence of bibliography—is passed. Short-title entries, skilfully done so that distinction of editions is easy, is all that is needed. On their basis the analysis of the books can purposefully proceed unhampered by pages of minutest descriptions.

The details of book-production in incunabula-times present a special interest that disappears later (just about the close of the century very curiously). For this reason a more intimate study of them will produce valuable results in many cases. The story of the collaboration of craftsmen and authors is by no means exhausted and deserves as much attention as the more modern collaborations of experimenters and their attendants which have been much neglected.

Another reason why my time with incunabula was not wasted is that it enabled me to advise H. C. in his purchases of these precious books. That is a long and rather intricate story, but it brought together something very choice that I hope will do more than just fill showcases of *rara*. Science, as we understand the term now, begins precisely with the printed book. Here is found its embryology, the genetic approach to that scientific mental and perhaps also moral attitude which characterizes modern man in his often protean behavior. We have mental habits, which impress one as compulsory, responding to certain stimuli like reflexes. We can get behind the laws of this behavior only by the purposefully directed study of texts. It is a domain practically unexplored and one might as well begin with these first machine-made books, many of which had to do service for several centuries to come.

The S. G. L. [Army Medical Library],* my long friendship and collaboration with Garrison have affected decisively the direction of my work and the scope of my collection . . . gentle, faithful Garrison, with his unparalleled knowledge of the entire domain of medical history. It was he who suggested to me the cataloguing of the medical incunabula in the S.G.L. and by that started me on an occupation that has kept me busy ever since. . . . (A.C.K. to George Stewart, February 12, 1940.)

This detailed statement from Klebs' own pen almost precludes further comment on his ideas of books, book collecting or bibliography but one must add the following, for it states so well a point he often made.

He believes in the minute reproduction of title-pages (quasi-facsimile) and most detailed collation. I shun them because they require too much work and permit endless errors to creep in. I want a terse statement of author and title, of place printer and date with a note if necessary stating the distinguishing typographical features. I am in short for bibliographic diagnosis and not for biblio-anatomic description. (A.C.K. to the author, Dec. 11, 1932.)

Klebs and Humanism

And so A.C.K., as his younger friends called him, divided his life between Europe and America, between the active practice of medicine

* Klebs spent 1915-18 in Washington, largely at the Library.

and public health, and the scholarly pursuit of the incunabula, among friends of several nations—long searching for something he apparently didn't find. If one looks back to meticulous autopsies[4] or the care with which A.C.K. woul didentify a portrait or print, one sees the man trained in the modern scientific method interested in exact measurement. But as one watched him enjoy a perfect sauce and the only wine that could accompany it, or heard him sputter over the minutiae of some scholarly work, one saw another man, one keenly aware of qualities that defied scientific analyses. The following passages reveal his interest in both points of view:

As a good Oslerian you are naturally warm for the "creators" and while sentimentally I am with him and you in the worship of our heroes, I am convinced that from the point of view of good history we get not very far with digging up "firsts" and "Primas." "Good" history as every intellectual performance must convey insight. Worship stirs the emotions and hence clouds insight. Perhaps we are not made to have true insight, but at any rate we must try. . . . Peregrinus, the first magnetizer, is surely a delusion. Many before him did exactly what he did, only they did not put it into the words that tickled our particular susceptibility. And what is that? The magic word: Experimental science! We have indeed the delusion of this being the gist of our present-day science and I feel convinced that just this is wrong. Man has experimented from his first day and experimented scientifically, viz., orderly and even systematically. What then distinguished Pierre de Maricourt, for instance, from our arch-experimenter Edison? Nothing essentially, I think. Only Edison, having more to deal with, had to adjust his thought-machine mathematically. Edison probably could do many of his experiments on paper entirely and with figures. He could largely dispense with the visible lines of force that Faraday's mental *imbecillitas* still required a century before. Edison is the worst possible example I could choose because he was not a scientist proper but a practitioner. And still I believe that he illustrates the difference of scientific mentalities seven hundred years apart. Our mentality has gradually come to adjust itself to ever greater demands for precision. It was not built on a deeper recognition of the needs of the experimental method for that is protoplasmatic in us. The need for thought-mechanization is not; that is the result of *artificial* or artful development. Logic first, then mathematics, or was it the other way around? The more it goes on, the more the human element becomes relatively unimportant. It does not matter what we like, it only matters what is, and only the mathematical equation can adequately express this. (A.C.K. to J.F.F., February 19, 1932.)

Again as he wrote of humanism he said:

Our first and foremost interest is in human affairs which really needs not such long-winded emphasis. The question seems to me rather what approach will presumably lead us to a satisfactory understanding of this complex concept of humanity. Our avenue is that of the senses and to

that I want to stick, though I am aware that an entire avoidance of the metaphysical is technically impossible. Pavlov and the behaviorists have undoubtedly made significant contributions. . . . But Gurwitsch does well to explore structure as the unavoidable basis. . . . It pays, I think, to consider the center of the "I" situated in the brain and all else environment. If we look at the brain as a big amoeba with tentacles that can see, taste, smell, hear, feel, etc., we may get further than if we continue to consider again and again fictitious structural subdivisions, cords, nerves, neurones, etc. And the fundamental protoplasmic necessities of "Hunger und Liebe" give a better psychological basis than the analytical subtleties of some of the Freudians.

Or again when he spoke of scholarship, he emphasized the same approach:

You say you do not qualify because of your relative ignorance of Latin and Greek. If that enters into the definition I do not qualify either on that score. But is this something to be particularly proud of as especially needed to understand the mysteries, varieties, complexities and even the plain patterns of being and becoming? That is the task of the student of life who may discharge it from the scholarly side, i.e., by the study of written thought, described actions and lived lives. In this sense I believe that the scholar's main attribute must be a keen awareness of all manifestations of life, past and present. Only *in medias res* can life be understood; take it apart and it ceases as life. A scholar who approaches any book without such an awareness, is a mere dissector, he lacks the urge to grasp and understand what truly has meaning. The urge of thoroughness, of *Gründlichkeit,* makes him look under the skin—that is O.K. and necessary—but the data he gets there must not dull his larger awareness. Look at the soulless rubbish accumulated by so-called scholars, erudite mountains lacking any guiding thought, any sign of warm feeling or appreciation of what truly matters. No matter how graceful in their latinity, how well posted in the classics, how charmingly elastic in their verbal adaptation to unspeakable nonsense, they leave me cold and I would rather not join their ranks. Osler's scholarship (not admitted by those that call themselves real scholars) would seem to me worthwhile because out of every line speaks his humanity and warmth. (A.C.K. to J.F.F., May 11, 1932.)

The task of evaluating Arnold Klebs and his influence thus becomes a difficult one—and he who would tackle it will need to consider carefully the many influences that played upon his rich and variable personality. He once criticized a contemporary historical study in these words:

All times are good and bad, and little it matters, I think. But what matters is to find out and understand why a given personality forced the attention of his contemporaries upon himself when one whom we consider his superior did not do it. (A.C.K. to the author, September 19, 1932.)

And on another occasion he wrote:

Those are profound questions which you wisely leave alone—I say "wisely" but I confess I do not always like wisdom. People, even doctors, don't always live on "facts." These stubborn inexorable things are beastly interferers with our joys. But then it is easier and perhaps safer to be factual than joyful, at least in publications. (A.C.K. to the author, July 20, 1932.)

Let the bibliographer take heed.

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Arabic Medicine in Literature

By KHALIL G. WAKIM, M.D.

AFTER the collapse of the Greco-Roman civilization, the vast Arabic speaking world of the Middle Ages performed a great service to mankind by acting as a link between ancient and modern medical science. The Arabs who in those days controlled an empire which stretched from the west coast of Europe and Africa into China were an heterogeneous people who spoke the Arabic language. For them the Middle Ages were not an era of darkness but an era enlightened by a renaissance of scientific study which not only preserved for the world much of the medical knowledge of the Greeks and ancient Semites but also contributed much that had hitherto been unknown in medical science.

It was the Christian Syrians who first translated Greek medical literature. The works of such early scientists as Galen, Aristotle, Plato, Dioscorides, Paul of Egina and Hippocrates were translated and preserved with the greatest care and veneration. Between the years of A.D. 750 and 900 vast amounts of money were spent by the Arabs in the purchase and translation of Greek manuscripts. Immense sums were used on the construction of hospitals and medical schools where medicine was studied and practiced.

Among the earliest of these schools were those of the Nestorians who taught medicine as well as their Christian belief. They translated many of the Greek medical works into their own language, Syriac. The Nestorians developed some of the earliest Arab physicians. The Nestorian family of Bakhtîschû was renowned for its physicians.[1] Jurjis, the first of this line of physicians, was head of the hospital of Gondishapur and in 765 A.D. was received with great honors by Caliph al-Mansûr in Bagdad. Later his son became the personal physician of Caliph Harûn-al-Raschîd and did much to further the teachings of Hippocrates.

In 918 A.D. one of the earliest Arab hospitals was opened in Bagdad by Sinan[1] who came from the well-known family, Quarrah. Sinan was a translator of medical literature and at the same time, at the request of al-Muqtadir, served as president of a board of medical examiners who examined all the practicing physicians of Bagdad and granted them permits to practice if their knowledge of medicine was found to be sat-

isfactory. The earliest translator and writer who used the Arabic language was the Christian, Yûhannâ ibn-Mâsawayh 777-857 A.D. (Latin, Mesué Senior). He was the physician in charge of a school of translators in Bagdad. In addition to his translations he made original contributions to Arabic medicine. His work, "Aphorisms," was first published in 1489 A.D. In addition, he left works on the study of fevers and the pulse.[3] Perhaps the most illustrious of the Nestorians was Hunain ibn-Ishâq, known as Johannitius (809-873 A.D.) who was a scholar of the Greek language and adapted many of the Greek terms to his development of scientific Arabic terminology. Ibn-Ishâq's multitudinous translations of ancient medical literature are invaluable for two reasons, namely, (1) because they are accurate; and (2) because many of the originals have been lost and only his translations remain. He is credited with writing the first textbook on ophthalmology as well as a textbook of "Questiones medicinae." Johannitius and his predecessor, ibn-Mâsawayh, are representatives of the transition period in Arabic medicine when physicians no longer limited themselves to translations of Greek medical literature but also began to develop originality in their medical studies and practices. That the medical profession in these days was a profitable one is shown by the case of Jibril ibn-Bakhtîshû who was court physician of al-Rashid, al-Mamûn, and the Barmakids and amassed a fortune of 88,800,000 dirhams (approximately $17,500,000). He is said to have received 100,000 dirhams for bleeding the Caliph and administering a purgative to him twice a year.[4]

In the 7th century, during the rise of Islam, the territory occupied by the Nestorians in the Near East came under Moslem rule. Since Arabic is the language of Islam, most of the translations from Greek into Syriac were then translated from Syriac into Arabic.[5] Not many Arabs knew the Greek language. Islam which was then the prevailing religion of the Arabs gave much impetus to scientific investigation. Even Mohammed appreciated a scientific knowledge of medicine and in the Koran stated: "He who restored life to a man shall be accounted as if he had restored life to humanity" (Koran, Chap. V, v. 35). It is said[2] that Mohammed often repeated, "God has not inflicted diseases upon us without at the same time giving us the remedy." Thus, to the Moslem, the study of medicine was an act of piety for had not the Prophet himself been an exponent of medical knowledge? However, there was one hindrance that Islam placed in the way of medical investigation in this time and that was by forbidding dissection of the human body. Physicians of this era had to content themselves with dissections of the lower animals. Even surgery was commonly regarded as being beneath the dignity of the Arab doctor and was practiced mainly by men of lesser rank.

During the height of Arab medical splendor, which followed the

period of translations, the Mohammedans were instrumental in establishing many hospitals and libraries for the furtherance of medical study and practice. The organization of these hospitals was in many respects similar to that of present day hospitals. Patients were segregated according to their ailments and were attended by nurses and doctors of various ranks. However, the Arab hospital assumed many of the duties taken over by the medical schools of our day. They specialized in training doctors and examining them for proficiency in medical practice and knowledge as well as in caring for the sick. During the period of Moslem domination, Bagdad, then the center of the moslem world, became famous for its well-equipped and well staffed hospitals which were built adjacent to a mosque and a library. Many students from faraway Spain and from Persia travelled there in order to obtain their medical education.[1]

Perhaps the greatest of all the Arabic medical men lived from 850-923 A.D. His name was Abû-Bakr Muhammad ibn-Zakariyâ al-Razi, more commonly known in American literature as Rhazes. He was a Moslem Arab born in the region of present day Tehran in Persia. Al-Razi was a physician, teacher, alchemist, philosopher, mathematician, and astronomer as well. One of his most outstanding contributions to medicine was his scientific and accurate differentiation between measles and smallpox. He is credited with originating the use of the seton in surgery and the use of chemical preparations in the treatment of disease. Al-Razi was original in his belief that fever in itself was not a disease but a natural means for combatting an infection. He did not agree with his contemporaries in giving great diagnostic importance to the urine which they were wont to do.

Over 200 books were written by Rhazes and of this number several have been of great importance in the development of medical science. "Al-Judari w-al-Hasbah," a treatise on measles and smallpox was one of the outstanding medical reports of his age. His al-Hâwî, or "Liber continens," was perhaps the most widely used of all his works. It was an encyclopaedic work of the medical information known in his day. It was translated into Latin in 1280 A.D. and was one of the total of nine books that composed the library of the Faculty of Medicine of Paris in 1395.[3] His work on smallpox, "Liber de Pestelentia," is one of his most important and original contributions from the standpoint of medical science.

Ali ibn-al-'Abbâs al-Magûsî (Haly Abbas, died in 994 A.D.) a Zoroastrian, as his name indicates, is credited with writing an excellent work called "Kamil al-Sina' al-Tibbiyah, or al-Kitab al-Malikî," an encyclopedic work on surgery and medicine which was translated and widely used as a textbook in schools of Europe. One of the greatest contributions Haly Abbas made to medical science was his description of the

capillary circulation which he presented in his textbook. He was one of the leading authorities on dietetics in his time. The book, *al-Malikî*, written in his characteristically clear style, gives much valuable information on surgery. He gives accurate directions for catheterization of the urinary bladder in male patients, for removing cysts and tuberculous glands. Haly Abbas, undoubtedly was an excellent surgeon in his time and contributed many original ideas to the science of medicine and in addition perpetuated the learning of his predecessors.

Abû Alî al-Hussein ibn Abdallâh ibn Sînâ (Avicenna, 980-1037 A.D.) had the most brilliant mind in Arabic medicine since the time of el-Razi. While el-Razi was famous as a practitioner, Avicenna excelled in other and more varied lines. He was born near Bokhara, Persia, and at an early age exhibited a remarkable memory. At the age of ten he knew the Koran and at the age of sixteen he was so thoroughly acquainted with the medicine of his time that he was then able to begin his writings on medical subjects.[1] As a young man, Avicenna, or ibn-Sînâ, won the favor of the Samanid sultan of Bokhara by curing him of a severe illness. In return, the sultan gave him access to the Royal Library which contained many valuable books and undoubtedly added greatly to Avicenna's store of knowledge. He showed a keen interest not only in medicine but also in philosophy, poetry and philology. He was a prolific writer. Among his most important works are his *Canon of Medicine* which is composed of five volumes dealing with: (1) Theoretical medicine, (2) Simple medicaments, (3) Localized diseases and their treatment, (4) Generalized diseases, and (5) Composition and preparation of drugs.[1] Avicenna's *Canon of Medicine* was translated into Latin and Hebrew and was widely used as a textbook until as late as the middle of the 17th century. His style of writing was authoritative and his statements remained unquestioned by most of the medical men of his time and for several centuries thereafter. It is interesting to those of us who are living in the 20th century to know that Avicenna described the contagiousness of phthisis, diagnosed ankylostomiasis, wrote on the effects and treatments of various forms of poisoning; e.g., those taken by way of the mouth and those from bites of insects and animals. The medical writings of Avicenna were based on his knowledge of both Greek and Arabic medicine which he organized and recorded in a clear and scientific manner.

Avicenna's life was relatively short and he spent most of it in the area where he was born. He was buried in Hamadhan, Persia, where one may still see his grave.

The golden age of Arabic medicine began in the 9th century and continued at its height until the 12th century when the power of Islam began to wane as a result of internal strife and of the challenge made by Crusaders and barbaric invaders from without. The Sixth Crusade

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in 1216-17 A.D. was particularly destructive to Arab civilization in the northern part of the Arab empire, and the fall of Egypt to Malik-us-Saleh Ayub in 1240-41 A.D., the surrender of Seville in 1248 A.D., and then the Eighth Crusade in 1249-50 A.D. so occupied the attention of the Arabs that they were unable to cope with the Mongolian hordes who were invading their empire from the East. Much of the brilliant civilization of the Arabs was ruthlessly destroyed by the Crusaders and the Mongols whose barbarism and destruction can be compared only to the present day destruction wrought by the Germans in their advance into the weaker nations of Europe. At this time Arab scholars were put to death and Arabic centers of learning and other treasures of civilization were despoiled. Irrigation works were destroyed and fields overrun, until, Selwyn-Brown[7] says, "Arabs lost confidence in any stability of civilization and decided for the rest of time to become nomadic like their conquerors."

While a great upheaval which led to the sudden downfall of the Arab empire was taking form, many Arabs migrated westward along the northern coast of Africa and later into Spain, where they found a flourishing civilization which had sprung up from the remains of Roman culture and the contributions of others who had migrated to that area. The Arabs brought their medical science with them and continued to pursue its study in the more favorable environment of Spain; thus by carrying their knowledge back to Europe, they were contributing light to the dawn of a brighter era in the West.

Abû al-Quasim Khalaf ibn 'Abbas al-Zahrawi (Abulcasis, died 1013?) was born near Cordova and was one of the greatest Moorish physicians and, at the same time, was the greatest figure in Arabic surgery of that day. Some say that Abulcasis was not a surgeon himself but merely compiled the knowledge of surgery of his Greek, Roman, Indian and Byzantine predecessors. Others maintain that his works on surgery describe operative technique that had been hitherto unknown in medical science, and his comments and his relating of personal experiences prove that he was an excellent surgon himself. Whether he was a surgeon or not, may remain unknown, but his writings were of profound importance to his contemporaries and to other students of medicine for centuries after his death.

Abulcasis decried the lack of interest in surgery in his time. He believed that many ancient works on the subject had been poorly translated and that the Arabs were sadly lacking in their knowledge of anatomy. He suggested that they study the works of Galen and carry on dissection themselves in order to understand anatomy and thereby lessen the dangers of operations. Abulcasis assumed the responsibility of writing up all the surgical knowledge of his time and in so doing he performed a great service to the advancement of medical science. His

book on surgery, the thirtieth volume of *Al-Tasrif,* includes many illustrations of instruments used by Arabic surgeons. It is claimed that this was mainly a compilation of the surgical knowledge up to his time and did not contain a great amount of original work. It was translated into Latin and used as a textbook in European medical schools.

Abulcasis made numerous original contributions to medicine. He is said to be the first to advise ligature of arteries, which he did long before Paré; he is thought to be the first to use hooks for extracting polyps, the first to teach the method of vaginal lithotrity, the first to describe hemorrhagic diathesis, and the first to write on orthodontia.[6] He performed transverse tracheotomy and distinguished between cancer of the thyroid and ordinary goiter.[2]

Even though a few historians do not agree that Abulcasis was a surgeon himself and differ on the dates of his birth and death, the fact still remains that Abulcasis contributed much in the field of surgery and upheld the dignity of a science that was too often neglected in the Moslem world.

Abû Merwan Ábd al-Malik ibn abu'l-Ala Zuhr (Avenzoar, 1094-1160? A.D.), as a physician may be classed with Rhazes and Avicenna. He was born in Spain and he, like his father and others of his family, was one of the greatest Arabic doctors of Spain. Avenzoar had the opportunity to learn much from the patients in the hospital of which he was head. He was critical of the theories of Avicenna and even questioned many of the beliefs of Galen. He had nothing but scorn for surgery and left that for the barbers and others of lower degree; neither did he believe it compatible with his dignity to prepare his own medicines.[1] However, he is credited with writing a work, *Itersir,* or Theisir, which gives information on preparing medicines and on diet.

A pupil of Avenzoar, Abû'l-Walîd Muhammad ibn Rushd (Averroes, 1126-98) was inclined much like his master. Averroes was a physician as well as a philosopher. He did not believe in Astrology and thought that only weak intellects believed in religion. His critical nature and radical religious beliefs caused him to be banned by both Christians and Moslems.[3]. His work on Aristotle was a classic and was widely studied in the Middle Ages.

Maimonides (Abû Imrâm Mûsâ ibn Maimûn, 1135-1204), a Jew, was a famous physician in Arabic medicine of the West. He was born in Cordova and was a pupil of Averroes. His main medical works are a collection known as *Medical Principles* or *Fusul Musa.* They were translated into Latin and Hebrew from the original Arabic. He wrote much on preventive medicine in which he strongly believed. It is interesting to note that he did not believe in the indiscriminate use of cathartics, as many of his contemporaries did. He said they merely irritate the intestine.[3] He believed that man must control his passions and live mod-

erately in order to have good health. Maimonides was admired by the Christians, Jews, and Arabs of his time. His tomb may still be seen in Tiberias and many Jews make pilgrimages there to see it.

One of the greatest contributions the Arabs made to medicine was in the realms of pharmacology and chemistry. They showed remarkable interest in this line of work and supplied drugs to western Europe. They were the first to introduce chemicals as drugs. In order to determine the effect of a new drug or substance, they often experimented with it on animals. It is said[2] that Rhazes studied the effects of mercury by administering it to a monkey. The monkey appeared to have abdominal pain but soon recovered. Rhazes concluded from this experiment that mercury was not very poisonous for humans. The pharmacopoeia of the Arabs contained a description of over 1,000 drugs. Many new ones were added by the Arabs; among them were rhubarb, manna, cloves, senna, and numerous others.

The best known writer among the Arabs, on the subjects of pharmacology and botany was 'Abdullah ibn-Ahmad ibn-al-Baytâr, who was born in Spain but travelled over much of the Arab empire in his study of plants. He is especially noted for two works, *Al-Mughni fi al-Adwiyah al-Mufradah,* which is on materia medica; and *Al-Jami' fi al-Adwiyah al-Mufradah,* or the Corpus of Simples, a collection of "simple remedies" which included those of his own, as well as those of the Greeks. It is a remarkable work and contains the names given to the same plant by people living in the various countries where the plants were known. For some time Ibn-al-Baytâr taught in Cairo and was the physician of the emir of Egypt. He contributed much to making pharmacy a special science separate from that of medicine. He died in Damascus in 1248 A.D.

An interesting name in Arabic medicine which has come to light only recently is that of the Syrian doctor, ibn-al-Nafîs, who lived in Cairo and Damascus[8] and died in Damascus in 1288 A.D. In an Arabic medical manuscript which was sent to Princeton, is an article by ibn-al-Nafîs in which he describes the pulmonary circulation by stating that the septum of the heart is not perforated as hitherto believed and that the blood flows from the heart to the lungs and thence through the pulmonary veins to the left side of the heart. The Portuguese, Servetus, is commonly credited with this discovery.

While the Arabs did very little dissection of the human body because of the influence of Islam, nevertheless they dissected animals and special organs of the human body, such as the eye. The prevalence of eye diseases in the Arab world led them to study the eye intensively. Avicenna accurately described the six extrinsic muscles of the eyeball. Furthermore the caliber of the pupil produced by relaxation and contraction of the iris (ciliary muscle) was known to the Arabs.[6]

Ali ibn-el-Aissa, sometimes called El Kahal (meaning the oculist) lived in Bagdad when Arabic medicine was at its zenith. He wrote a book, *Tadkirat-el-Kahhalin,* on ophthalmology which was a classic in its time and has been preserved in its original language. In his book, Ali ibn-el-Aissa sums up the knowledge of ophthalmology which was learned from the Greeks and adds much which was original with the Arabs. In a clear and logical style, he describes such diseases as trachoma, conjunctivitis, and cataract and gives their treatment. The inaccurate Latin translation of his work has caused some to discredit him but the Arabic version of the Tadhkirat (memorandum book for eye doctors) proves its merit.[9]

Credit goes to Abu Alî al-Hassan ibn-al-Haitham (Alhazen) for having the greatest knowledge of optics in his time. He was born in Basra in 965 A.D. Alhazen disagreed with his contemporaries in teaching that in vision the rays passed from the object to the eye and not from the eye to the object.[1]

One of the most important translators in the XII century was Gerard of Cremona. He translated into Latin such important medical works of Arabs as the *Mansuri* of Rhazes, the *Canon* of Avicenna and the *Surgery* of Abulcasis. Other noted translators of this era were Constantine and Faraj ben-Salim, a Jew. All of these translators deserve great credit for making the Arabic literature available to the people of Europe, who were destined to perpetuate and use the knowledge accumulated by the Arabs in their golden era of learning. During these translations numerous technical terms of the Arabs were introduced into the European languages. Today we still use such Arabic terms as "soda," "syrup," "alcohol," "alkali," and "antimony," all of which had their origin in the Arabic language.

In reading original Arabic manuscripts one may be surprised to find an accurate scientific treatise on a disease accompanied by a series of superstitions and magical cures for that disease. It appears that these superstitions, in which the author placed no reliance himself, were included in order to avoid criticism of his scientific work by the charlatans of his time. These quacks were quite influential in those days and were capable of causing trouble to scientists who antagonized them. We must not misjudge the author by thinking he believed in these superstitions; they were merely used as an expediency.

While Arabic medicine was flourishing in Spain, it was reaching out into other European countries and found its way into Germany, Italy, France and even into England. This was fortunate for medical science because Arab supremacy in Europe rapidly declined when, in 1248 A.D., Seville was surrendered to the Christians. After this time, very few Moslem Arabs remained in Spain and the great majority who migrated to other countries found conditions unfavorable to their sci-

entific advancement. With its fall in Spain, the loss of Egypt, and Bagdad, Arab civilization seemed to have faded from sight, but a few of its precious treasures were kept alive by the rising civilizations of Europe, and thus we see that the Arabic cycle of learning which had its beginnings in Europe, and also in the East, was completed by its return to Europe when Europe was again ready to bear the torch of learning.

We are greatly indebted to the Arabs for perpetuating the medical knowledge of Greece and Rome while Europe was unable to maintain it. However, we must not overlook the significant original contributions the Arabs made in ophthalmology, surgery, chemistry, and pharmacology.

After Arabic domination in Spain was ended, interest in Arabic medical literature gradually declined. This may be explained by the fact that many of the translations from the Arabic were poor and inaccurate, and also, by the fact that the Arabs of later centuries had little interest in the printing of books in Arabic characters. Copying by hand was tedious and the result was a scarcity of copies of medical works.

It is only in recent years that great interest has arisen in translating Arabic manuscripts into more widely known languages. There is much Arabic literature which we have not yet explored. Mayer[10] reports that Brockelmann, in 1899 A.D., published a history and bibliography of Arabic literature in two volumes but the Arabic manuscripts which have been discovered since that time have been so numerous that, in 1937, he wrote two supplementary volumes, each larger than the two earlier ones combined. Perhaps we may still have much to learn from the contributions of the Arabs.

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Association News

NOTICE CONCERNING COMMITTEE ON AID TO LIBRARIES IN WAR AREAS

DEAR COLLEAGUES:

The work of this committee is continuing at a rapid rate. I understand that some libraries thought aid was requested only for one year. *The work is to be continued for the duration* and probably for a short time afterwards, at least until it is known that normal sources of supply are available again. Therefore all medical libraries are requested to continue to send information regarding material left over after distribution to the Medical Library Association Exchange to—

Miss Dorothy J. Comins
ALA International Relations Office
Committee on Aid to Libraries in War Areas
Library of Congress Annex, Study 251
Washington (25) D.C.

Those of you who want a list of the titles needed, may write to Miss Comins, who will be glad to send it to you. Both Miss Comins and I wish to thank you for your continued cooperation.

The following libraries should have been included in my list of cooperating medical libraries, published in the Bulletin for July, but they failed to send me their names, which I obtained later from Miss Comins.

Iowa State Medical Library, Des Moines
Rudolph Matas Medical Library, Tulane University
State University of Iowa Medical Library, Iowa City
Macdonald Medical Library, Danvers State Hospital, Hawthorne, Mass.
Mayo Clinic Library, Rochester, Minnesota
Cornell University, Medical College Library, New York
St. Vincent's Hospital, New York
Academy of Medicine, Utica, New York
Medical College of the State of South Carolina

As no record was furnished of the amount of material being stored or sent, I cannot add this information to our statistics already published.

EILEEN R. CUNNINGHAM, *Chairman*
Committee on Periodicals and Serial Publications and Liaison Member Cooperating with Committee on Aid to War Libraries.

ADDITIONS AND CHANGES IN MEMBERSHIP, SEPTEMBER 2, 1943, TO DECEMBER 7, 1943, REPORTED TO THE SECRETARY

ADDITIONS

Library Members

M. D. ANDERSON HOSPITAL FOR CANCER RESEARCH LIBRARY. 2310 Baldwin Avenue, Houston, Texas.

SCHERING CORPORATION LIBRARY. 86 Orange St., Bloomfield, N.J. (Gertrude Horndfer.)

Professional Members

FOSTER, LAVETA. Library, Medical School, Southwestern Medical Foundation, 3705 Maple, Dallas 4, Texas.

SUTPHEN, ORA R. Children's Hospital, Doctors Library, 4614 Sunset Blvd., Los Angeles, California.

Supporting Members

NIXON, DR. PAT IRELAND. 1022 Medical Arts Bldg., San Antonio, Texas.

RESIGNATIONS

Library Members

EL PASO COUNTY MEDICAL SOCIETY LIBRARY. Colorado Springs, Colorado.

DECEASED

Honorary Members

ROTHROCK, DR. JOHN L. 140 Summit, St. Paul, Minnesota.

CHANGE OF LIBRARIAN

BAYLOR UNIVERSITY COLLEGE OF MEDICINE LIBRARY. Houston 1, Texas. (Bonita Morton) change to (Mrs. Katherine H. Morgan.)

CHANGE OF ADDRESS

Library Members

BAYLOR UNIVERSITY COLLEGE OF MEDICINE LIBRARY change to Houston 1, Texas. (Mrs. Katherine H. Morgan.)

WORCESTER MEDICAL LIBRARY change to 57 Cedar Street, Worcester 2, Massachusetts. (Mary N. Perkins.)

Professional Members

AGG, RACHEL change to 1216 Peniston Avenue, New Orleans, Louisiana.

BAKER, MARY CATHERINE change to Library, U. S. Naval Hospital, Oakland 17, California.

BLOGG, MINNIE W. add zone number as follows: 736 West North Avenue, Baltimore 17, Maryland.

BRIN, MRS. JOSEPHINE S. change to 101 Third Street, San Antonio, Texas.

McLAUGHLIN, ENSIGN MABEL I., U.S.N.R. change to 4824 Edgemoor Lane, Bethesda 14, Maryland.

NEIL, JOSEPHINE change to Librarian, Library No. 1, Thayer General Hospital, Nashville 5, Tenn.

NELSON, FORREST change to 17 Belle Place, Springfield, Illinois.

Supporting Members

KELLY, DR. EMERSON CROSBY add zone number as follows: 269 South Main Avenue, Albany 3, New York.

* * *

DUPLICATES: The Cleveland Branch of the Army Medical Library, 11,000 Euclid Avenue, Cleveland 6, Ohio, has several duplicates of the following items. These are available for the asking.

Dryden, John F. Taxation of life insurance in the United States; an address delivered at the annual meeting of the Association of Life Insurance Presidents . . . Dec. 4, 1908.

Hoffman, Frederick L. Cancer among North American Indians; Health progress of the North American Indian; The Indian as a life insurance risk. Prudential press. (1929)

——— Cancer in Russia and Scandinavia. Newark, N.J. Prudential press, 1928.

——— Economic progress of the United States during the last seventy-five years; an address delivered on the occasion of the seventy-fifth meeting of the American Statistical Association, Boston, Feb. 14, 1914. Prudential Press.

——— Fallacies of birth control; read before the Delaware State Medical Society . . . 1926.

——— Life and death in the medical profession. Prudential press, 1932.

——— Malaria problems. Prudential press, 1928.

——— On the causation of cancer; an address delivered before the American Association for Cancer Research . . . April 17, 1924. Prudential press.

——— Some cancer facts and fallacies; an address given before the Mayo Foundation and others. Prudential press. (1925)

——— Some factors of sickness in industry; an address delivered before the Industrial Insurers' Conference . . . 1927. Prudential press.

——— Some final results of the San Francisco Cancer survey; an address delivered in the section on practice of medicine, American Medical Association Convention, Portland, Oregon. July, 1929. Prudential press.

——— Some principles of cancer statistics research. Prudential press, 1931.

——— Suicide problems, with an introduction. Newark, N.J., Prudential press, 1927.

International Congress of Military Medicine. Tenth (Session) Washington, D.C. May 7 to 15, 1939. Volume I, Official Reports. Volume II. Proceedings.

San Francisco Cancer Survey. Second Preliminary Report. (1925)

Note: These and subsequent reports were written by Frederick L. Hoffman, from a survey conducted under the auspices of the John Hancock

Mutual Life Insurance Co., the Pacific Mutual Life Insurance Co., and the Prudential Insurance Co. of America. Printed by the Prudential press.

——— Third Preliminary Report. (1926)

——— Fourth Preliminary Report. (1927)

——— Fifth Preliminary Report. (1928)

——— Sixth Preliminary Report. (1929)

* * *

The New York Academy of Medicine has a few more copies of the "Index of obituaries published in the *Medical Register of New York, New Jersey and Connecticut,* 1862-1895." Over 1500 names appear in this Index and most of them are good biographies. Copies were offered on the November Exchange List to libraries possessing the Register. Librarians who did not see the List, and who would like a copy of the obituaries, may have one by communicating with the Librarian of the Academy.

* * *

British medical libraries are co-operating with libraries in this country, in an effort to help each other in the completion of periodical files of war dates, left incomplete as a result of enemy action. It is reported that the copies of *Brain* and of *Nature* which were listed for our British friends, as missing in American files are being furnished as the gift of The Macmillan Co., the publisher. Such co-operation is indeed deserving of especial acknowledgment. All libraries reporting as missing the *British Medical Journal* March 15, 1941 have now been supplied with copies from British libraries. A few copies of this scarce number remain. Any library still needing this number is requested to address Miss Alice V. Rogers, Manager, Exchange, 1430 Tulane Avenue, New Orleans.

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The attention of members of the Medical Library Association is called to the following note item, appearing in the *British Medical Journal* for August 28, 1943.

AN APPEAL FOR BACK NUMBERS

Members who do not preserve the *Journal* for binding are invited to send their copies (preferably in bulk) to B.M.A. House, Tavistock Square, W.C.1, addressed to the Secretary of the *Journal* Board. The cost of carriage will be repaid. There is a constant demand for back numbers, and each issue goes quickly out of print; hence any spare copies published during the war will be welcome. The steady growth in membership to a figure well above 43,000 has increased the circulation of the *Journal* by 12% in the past four years, because every new member must have his weekly copy. Meanwhile there has been a very severe and progressive cut in the amount of paper allowed to be used for printing. Every means of economizing space has been adopted in order to make the paper ration go as far as possible, and nothing more can be done except to reduce the number of pages still further. A member who returns his copies at any time after reading them will in that way put them back into circulation through the Head Office. If the response to this appeal is widespread the help thus given will be very material at a time of great increasing difficulty.

* * *

Northwestern University Medical School Library has acquired an additional 165 volumes (565 items) from the historical collection of Dr. Irving

S. Cutter, Dean Emeritus of the Medical School. These volumes have considerable intrinsic value as well as that which is attached to them as a portion of Dean Cutter's library which has long been available to readers in the Medical Department of Northwestern University.

* * *

Medical Articles Being Collected on Microfilm

A collection of medical articles on microfilm has been started at the Joseph Brennemann library in the Children's Memorial Hospital, Chicago, Ill. The films, which are read by means of a microfilm reader, have been supplied by the Army Medical Library in Washington, D.C. Microfilm material for special studies by staff members and alumni of the hospital already has been obtained, and the service is to be extended to doctors in the armed forces.

* * *

PERSONAL NEWS

MR. CHARLES FRANKENBERGER, Librarian of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn, has published in the society's bulletin for October 1943, a list of recent books on military, naval and aviation medicine contained in their library. Earlier lists were published in the December 1940 and May 1942 issues of their Bulletin.

As an extra service to readers the Library Staff is compiling a ready index of the latest articles relating to war medicine as they appear.

* * *

On December 16, 1943, COLONEL HAROLD W. JONES, The Librarian of the Army Medical Library, addressed the graduating class of the Medical Field Service School at Carlisle Barracks, Pennsylvania. The subject of Col. Jones' lecture was "On the Move." In his lecture, Col. Jones outlined the history of military medicine in the field.

* * *

MISS MARGARET BRINTON, formerly associated with the Yale Medical Library, Historical Library, is now engaged in bibliographic research for individuals. Her new address is Apt. 2B-611 West 114th Street, New York 25, N.Y.

* * *

MISS WILMA TROXEL, Librarian of the University of Illinois Medical, Dental, and Pharmacy Library, Chicago, has been named Editor of *Informant,* the journal of the Illinois Chapter of the Special Libraries Association.

* * *

MISS MARION KAPPES, Librarian of the Children's Memorial Hospital, Chicago, is now Vice President of the Illinois Chapter, Special Libraries Association, and Mrs. Madelen Marshall, Librarian of Northwestern University Dental School Library, Chicago, is now Secretary-Treasurer of the Illinois Chapter.

* * *

MISS L. MARGUERIETE PRIME, Librarian, American College of Surgeons,

and Miss Marion Kappes are working on the program of the Hospital Medical Library Division of the Tri-State Hospital Assembly which is to be held in Chicago at the Palmer House, May 10-12, 1944.

* * *

MISS MARGUERITE E. CAMPBELL, Librarian of the Chicago Medical School, has prepared a "Tentative Outline for a Course in the History of Medicine," in twelve seminars, with an annotated reading list. This outline is based on a series of lectures which she gave to the Associates and other interested faculty members at the Peking Union Medical College; but it has been revised for various occasions since. Miss Campbell will be glad to supply mimeographed copies of the outline to those who wish them.

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MISS GERTRUDE L. ANNAN of the Rare Book Department of the New York Academy of Medicine published in the October number of its Bulletin a check-list of editions of *The Vicar of Wakefield* in the Lesta Ford Clay Collection presented to the Library by Mrs. Clay in memory of her father, Dr. Linsly R. Williams, former Director of the Academy. One hundred twelve editions are listed. The most valuable of these are the first edition, Salisbury, 1766, the pirated edition which appeared in London in the same year, the first American edition which was published in 1772 and the first edition with the illustrations by Thomas Rowlandson, London, 1817. There are editions in French, German, Dutch, Swedish, one in phonetic spelling and one in Pitman shorthand. Many are illustrated by well known artists.

* * *

At the 1943 annual session of the Oregon State Medical Society, which was held September 4 and 5 at the University of Oregon Medical School Library, MISS BERTHA B. HALLAM was presented with a beautiful wrist watch from the Oregon State Medical Society in appreciation of her hospitality and to commemorate the 25th anniversary of her service as librarian.

* * *

MISS LOUISE WALKER, Librarian of the Northwestern University Medical School Library, has resigned her position and is leaving Chicago, December 23 to undertake poultry farming at Pelham, New Hampshire. She is accompanied in this venture by her sister, Mary, who is also a librarian. Miss Mary Walker was formerly head of the reference department of the public library at Fitchburg, Massachusetts, and more recently has been in charge of art research at the Finley Galleries, Chicago. Both young women are looking forward to hearing from their friends in the library field when they are settled at Pelham.

* * *

MISS GWENDLYN CAMPBELL has resigned her position as cataloger at the University of Nebraska College of Medicine Library to accept a position at the University of Wisconsin Medical Library.

Obituary

LOUIS BLANCHARD WILSON

On October 5, 1943, seventy-six years after his birth in Pittsburgh, Pennsylvania, Dr. Louis Blanchard Wilson died at his home, Walnut Hill, on the outskirts of Rochester, Minnesota. Among physicians of his day few were as versatile. This quality arose partly from extraordinary energy and mental as well as physical capacity, but partly also from early training and environment.

Dr. Wilson was broadly based by education and experience in the fields of biology and education. He achieved distinction in pathology, graduate medical education, color photography, ballistics and knowledge of the mode of production of war wounds, in all of which he did pioneer work. He also was well known as horticulturist, rifle expert and bibliophile. His knowledge of publications in the fields of medicine and the auxiliary sciences was highly serviceable to his colleagues throughout his life and particularly so, perhaps, in the formative days of the library of the Mayo Clinic.

In 1905, Dr. Wilson resigned as assistant director of the bacteriologic laboratory of the Minnesota State Board of Health to take up the work of organizing and developing the laboratories of the Mayo Clinic. Thereafter he was successively head of, and senior consultant in, the section on general pathology of the clinic and professor of pathology in the Mayo Foundation, Graduate School, University of Minnesota. In 1917 and 1918, he was chairman of the section on pathology and physiology of the American Medical Association. He was certified by the American Board of Pathology, Inc., and was a member of various societies of which the membership is composed wholly or largely of pathologists: the American Association of Pathologists and Bacteriologists, the American Association for Cancer Research, the American Society of Clinical Pathologists.

In 1915, Dr. Wilson became the first director of the Mayo Foundation and he continued actively in that chair until 1937, when he became director emeritus. His interest in medical education led to his holding membership, from 1923 to 1931, in the Council on Medical Education and Hospitals of the American Medical Association, and in the National Board of Medical Examiners. He was president of the Association of American Medical Colleges from 1931 to 1933.

Other important presidencies or chairmanships which he held were the presidency of the Advisory Board for Medical Specialists, from 1935 to 1937, of the National Society of the Sigma Xi, from 1932 to 1934 and the chairmanship of the medical section of the American Association for the Advancement of Science from 1931 to 1932.

The foregoing list is not an exhaustive one of the positions of responsibility which Dr. Wilson held or of the honors which deservedly were his. Of these latter, the one which he most valued was the Distinguished Service Medal. This was awarded on the basis of his service as assistant director of the Laboratory Division of the American Expeditionary Forces in 1918 and 1919. He served as major and colonel, and he was largely responsible for the large collection of pathologic specimens which was sent from overseas to the Army Medical Museum. In this connection it seems appropriate to record that Dr. Wilson, who died in wartime, after his death was dressed in his uniform of the former war, with the single ribbon of the D.S.M. on his breast. This, his family believed, would have accorded with his wishes and those who were acquainted with the importance he attached to his country's service would agree.

RICHARD M. HEWITT, M.D.

Reviews and Book Notes

CUSHING, HARVEY. A Bio-bibliography of Andreas Vesalius. (Publication No. 6, Historical Library, Yale Medical Library.) xxxviii + 229 pp., illustrated. New York, Schuman's, 1943. $15.00.

Of all the publications in celebration of the quatercentenary of Vesalius's *Fabrica,* this was the longest in gestation, is easily the most substantial, and will have the most permanent value. It is an achievement worthy of a place beside the author's *Life of Sir William Osler* and his contributions to neurosurgery.

To students of Vesalius the indispensable tools have been Roth's biography, Feyfer's bibliography, and Spielmann's iconography. This book at once supersedes Feyfer and takes rank above Roth and Spielmann in all-around usefulness. It contains full bibliographic descriptions of more than a hundred and thirty editions of the various works of Vesalius and his plagiarists, briefly identifies half a hundred more, and concludes with a list of 451 "Vesaliana." There is an index of recorded copies and a chronology of editions besides the index of names; and there are eighty-nine illustrations, most of them full-page. The text which clothes this bibliographic framework attempts "to place Vesalius in the time and the circumstances that led up to the composition and publication of his several works," and succeeds so admirably that it amounts to a full-length biography.[1] The book is beautifully printed in Poliphilus roman and Blado italic; it is a delight to handle, and a delight to read.

Dr. Cushing's magnificent Vesalius collection was begun under Osler's influence and built up over thirty-six years, during twenty of which he had this bibliography in view.[2] The last year of his life was spent in composing it. His untimely death in 1939 left nearly half the work still to be done, and we owe its completion to the genial energy and devotion of Dr. John Fulton (who has modestly withheld his name from the title-page), and to the collaboration of Drs. W. W. Francis, Arturo Castiglioni and E. C. Streeter, and of Mrs. John P. Peters and Miss Madeline Stanton. Miss Stanton, who was Dr. Cushing's secretary, is especially to be thanked for the meticulous accuracy of the bibliographic descriptions, on which the value of the book chiefly depends.

One feature of the work for which all but the hardiest scholars will be

[1] Except for the years at Madrid, of which so little is known, but on which Dr. Saunders has recently shed fresh light.

[2] On Cushing as collector see the remarks of Klebs quoted by Dr. Baumgartner, p. 89 above.

grateful is the quoting in English translation of numerous and extensive passages from the books described. It must be confessed that these translations often halt somewhere between Latin and English idiom, and give occasional indications that the original has been imperfectly understood. Oddly enough, however, it is the translations from the German of Leveling's *Anatomische Erklärung* that are most faulty.[3]

In a footnote on page 73 Dr. Fulton quotes from "a recent unsigned article in *The Times Literary Supplement* of London" (May 29, 1943) a very illuminating discussion of the meaning of the word *fabrica* as used by Vesalius. It may be worth adding that this discussion gains in authority from the fact that the article in question was written by the distinguished historian of science, Charles Singer. A similar discussion may be found in Singer's article in the *Journal of Anatomy* for July 1943, from which it appears that the phrase "art of trade" in the *Times* article should read "art or trade." Singer's book, *The Evolution of Anatomy* (1925), by the way, should have been included among the Vesaliana in Chapter X, both for its excellent section on Vesalius and for the Vesalian atlas appended to the volume.

In Dr. Cushing's interpretation of the *Fabrica's* frontispiece (page 81), "the disconsolate barbers sit on the floor and swap their unused razors." Are they not rather keeping them sharp for Vesalius's use? One of the barbers is handing a sharpened razor up to the dissecting table, where another razor lies which Vesalius has used in opening the abdomen of the cadaver. A third razor is being honed by the other barber, and the first barber is impatiently reaching for it.

Dr. Cushing says on page 90 that Oporinus's "termagant" wife would scarcely have favored his printing a second edition of the *Fabrica* in 1555; but his "termagant" wife had died in 1533, ten years before the printing of the first edition.

On page 113 the fact that the German *Epitome* took nineteen sheets and the Latin only fourteen is explained by gothic type taking more running space than roman. Actually, however, it does not, and the difference is rather due to the conciseness of Latin and the diffuseness of German as languages, and

[3] On page 104, lines 3-5, "Connoisseurs may judge from the number of the subscribers that it will remain a success even with the expense necessary for the producing of the plates and printing of the work" should read "Experts [in subscription publishing] will judge from the number of the subscribers that the response [to my advertisement] is disproportionate to the outlay required for buying the wood-blocks and printing the work." On page 102, line 1, "in his scientific papers" should be "in the learned periodicals." In the last two lines of the same page, "taking what immediately follows each heading" should be "inserting immediately after the identification of each [anatomical] part a detailed description of it." The paragraph at the top of page 103 needs revision throughout; in the last four lines, for example, "prevented me from following my plan as in the other six books, namely to give a direct explanation of them [the illustrations] aside from the explanation of each part [in the text]; which I tried however to replace by a similar arrangement to that in the first book" should read "prevented my following in the first book the plan of the other six, namely to insert immediately after the identification of each [anatomical] part a full description of it—a defect which I have tried to offset by the '*Anwendung*' appended to the first book."

to the further fact that the German *Epitome* contains an additional preface by the translator, and prints the portrait of Vesalius on a separate page.

On page 119 it is asserted that "There was no adverse criticism of the woodcuts made from Calcar's drawings"; but on page xxxi the adverse criticism by Jacobus Sylvius is quoted at length, italicized and discussed.

These quite incidental observations, and the corrections, chiefly typographical, which I have grouped in the footnote below,[4] are recorded in the hope that they may be of interest to some readers of the *Bio-bibliography*. If they have an ulterior motive, it is not to subtract from the grateful homage of the opening paragraphs of this review, but to offer evidence that it was not idle praise; it was carefully measured, after reading the book.

A word of warning should be added. Only eight hundred copies were printed. Every medical library, every research and reference library, every serious student of medical history, every collector, and every admirer of Dr. Cushing, will want a copy. Order early!

MAX H. FISCH

FETTERMAN, JOSEPH L., *The Mind of the Injured Man*. 260 pp. Chicago, Industrial Medicine Book Co., 1943. $4.00.

This is a simple, concise, well-organized little book of interest and potential help to the medical, legal, or lay reader interested in trauma and its psychic and neurological sequelae.

The material is well arranged making this a good book for reference, but the large easily read print, the excellent case histories, and the clear illustrations lead the reader to continue through the whole text merely for the pleasure of the reading.

The chapters on the neuroses, malingering, and the psychopathic personality were particularly interesting to this reader.

As Foster Kennedy remarks in his forward, "This is not just a book, it's a very good book."

DONALD M. HARLOR, M.D.

GEER, ANDREW. *Mercy in Hell*. 264 pp. with 25 photographs. New York, Wittlesey House, McGraw-Hill Book Co., 1943. $2.75.

You will close this book with a deep satisfaction in being an American.

[4] On p. 33, line 7, for "had rivaled" read "rivaled." P. 71, l. 3 of V.-2, instrumetorum—instrumentorum. P. 74*, August 23rd—August 24th. P. 81, l. 34 (and index), C. E. Heckethorn—C. W. Heckethorn. P. 85*, l. 3 he—the. P. 104, col. 1, l. 7 of *Contents*, VI. A. 14—VI. A. 15. P. 104, col. 2, l. 8, he—the. P. 107, l. 25 needs revision, since there *was* a colophon. P. 111, l. 10, given authority—devoted ourselves. P. 111, col. 2, l. 3, August 3—August 13. P. 112, col. 2, l. 47, hat—that. P. 119*, l. 5, first—only. P. 138, col. 2, l. 9, *e.g.*—*i.e.* Fig. 82, Robert Winter—Joannes Oporinus. P. 182‡, l. 3, heir—their. (The typesetter's besetting sin seems to be dropping his initial t's.) P. 193, l. 22, to the vessels—in the vessels. P. 197, No. 1, l. 3, an—ad. No. 67, l. 3, Bulison—Bulifon. No. 71, l. 1, ae—de. Nos. 231, 395, Spielman, Kluykens—Spielmann, Kluyskens. Nos. 254, 274, Spielman—Spielmann. No. 269, indulgentarium—indulgentiarum.

The author, recording his experiences as a member of the American Field Service Corps (volunteer ambulance organization attached to the British Eighth Army) unintentionally, I believe, reveals the soul that is America.

Within these pages you will travel with the author through the African campaign, learning as you go of the intricate yet colossal part men of medicine are playing in this war. You will find Andy Geer's style of writing very wholesome. You will also find he knows his subject.

M. LOGAN, JR.

JENSEN, DEBORAH MACLUNG. *Teachers' Guide for an Introduction to Sociology and Social Problems.* 50 pp. St. Louis, C. V. Mosby Co., 1943.

Mrs. Jensen has published this brochure to guide teachers in Schools of Nursing in courses of sociology and social problems. There has been the tendency to discontinue courses in sociology in schools of nursing due to accelerating the nursing program on account of the war effort. However, Mrs. Jensen is quick to point out that in a period of stress and strain, such as we are now witnessing: "Every nurse today is a community health worker in every sense of the word, and she needs a full understanding of the family, the community, and the development of human behavior as a basis to understand social problems better."

This is a well devised outline of modern sociology. The references to the literature are excellent, and the teaching units are carefully planned.

THOMAS E. KEYS

KOLMER, JOHN A. *Clinical Diagnosis by Laboratory Examinations.* 1,239 pp. New York, D. Appleton-Century Co., 1943.

The clinical pathologist, a specialist in performing, interpreting, and applying laboratory methods in the practice of medicine, has unfortunately become of decreasing importance to many practitioners. Clinical pathology as a specialty is relatively new. It developed with the application of the microscope to medicine, advances in bacteriology, parasitology and serology, and newer knowledge in other fields such as blood chemistry. The first book on clinical pathology was probably Bizzozero's *Manuale di Microscopia clinica* in the early 80's, followed soon after by von Jaksch's *Clinical Diagnosis*. Long before these books were published, others discussing certain phases of clinical pathology had appeared. Among these were *Manual of the Blood and Urine* by Griffith, Rees, and Monkowski, which was published in the United States in 1848. The work in clinical microscopy in Osler's clinic at Johns Hopkins was organized by Charles P. Emerson, whose *Clinical Diagnosis* (1906) was very complete and long remained a model in its field. Many other books have followed.

The latest clinical pathology to appear is *Clinical Diagnosis by Laboratory Examinations* by John A. Kolmer. Dr. Kolmer has long been actively identified with laboratory work as well as with clinical medicine. With Boerner he has written an excellent treatise on laboratory methods. The present book

is divided into three sections. Part 1 is concerned with the clinical interpretation of laboratory examinations on the basis of histology, physiology, and chemistry. Part 2 is a discussion of the practical application of laboratory examinations in clinical diagnosis. Here the tests are outlined, together with the typical findings in diseases of different parts of the body. Part 3 describes the technic of the various tests used.

Dr. Kolmer has produced a very complete and excellent work. It seems to the reviewer unfortunate to separate the book into three separate parts. This necessitates some repetition. For instance, in part 1 there are separate chapters on the clinical interpretation of urine examinations and of kidney function tests. The practical application of laboratory diagnosis to disease of the kidneys and urinary system is discussed in another chapter in part 2, while the technic of urine examination is outlined in two different chapters in part 3. It is most difficult to have an ideal arrangement, however.

Dr. Kolmer has most appropriately said on the dedication page: "No clinical laboratory examination can be better than the thoroughness and skill with which it is conducted."

This book can be recommended as a most excellent treatise on clinical laboratory diagnosis.

R. L. HADEN, M.D.

LEONARDO, RICHARD A. *History of Surgery.* 504 pp., 100 full page illustrations. New York, Froben Press, 1943. $7.50.

Completed at the time of Pearl Harbor, this important survey of surgery appears most opportunely when this ancient medical specialty is rendering such significant service for war. Doctor Leonardo is well qualified as a surgeon and scholar to prepare this comprehensive history of his calling, and his wide experience at Edinburgh, Rome, Vienna, Budapest, Debrecen, and now at Rochester, New York, has assured him of opportunities for obtaining historical information relating to surgery which are not to be obtained from libraries alone.

It is to be regretted that so little space has been given to "primitive surgery." Even the important contributions made by the Greeks to surgical technique are rather lightly passed over. Greater care, however, is given to the analysis of the more practical contributions of the Roman surgeons. The discussion of Arabian surgery is ample and enlightening, particularly with respect to indicating its influence on medieval surgery.

With increasing attention to biographical sketches, Doctor Leonardo offers considerable detail on the lives and works of the great Renaissance surgeons, and then begins a more nationalistic analysis of later developments in the field. While it is wise to offer extracts from the contributions of great surgeons, one might doubt the wisdom in spite of its great importance of quoting *in full* the "Remarks on that kind of palsy of the lower limbs found to accompany a curvature of the spine," published by Percival Pott (1714-88) in London in 1779. Again, while a paragraph or two from John Hunter (1728-93) might be very informative in giving some idea of Hunter's style, it is doubtful whether much is gained by quoting nine pages on "The Blood"

from Hunter's lectures on the principles of surgery.

Only the briefest of thumbnail sketches are apparently possible in the treatment of more recent surgical development, but an effort is made to be as comprehensive as possible, so that sections are included on the surgery of South America, of Canada, and of Russia, in addition to the more widely known surgery and surgeons of other countries.

An excellent feature of the volume is the extensive bibliography. There is an addenda describing progress in the surgical specialties. It is regretted that the full-page illustrations are all in the back of the book, instead of being spread through the book in illustration of the text. The publishers are incorrect in stating that the volume is the first history of surgery in English. Harvey Graham's "Story of Surgery" was published in New York in 1939, but the subject is large enough for still further histories. Perhaps Doctor Leonardo may undertake a study of surgery in war.

CHAUNCEY D. LEAKE

MACKINTOSH, J. M., Ed. *War and the Doctor, Essays on the Immediate Treatment of War Wounds.* 132 pp. Baltimore, William Wood and Co., 1941. $2.00.

This book, edited by Dr. J. M. Mackintosh, chief medical officer of the Department of Health for Scotland, consists of a series of lectures delivered at the request of the Edinburgh Branch of the British Medical Association. The nine surgeons who participated had no opportunity to consult with one another and consequently the book lacks unity.

Among the subjects considered are fear neuroses, shock and haemorrhage, injuries to the head, chest and limbs, first aid instruction and emergency surgery on the field.

The essays are intended primarily for medical practitioners who may be called upon to perform emergency surgery.

A. I. LUDLOW, M.D.

MANN, MARGARET. *Introduction to Cataloging and the Classification of Books.* Second edition. 276 pp. Chicago, American Library Association, 1943. $3.25.

The first edition of Miss Mann's book, which appeared in 1930, was one of the original Library Curriculum Studies. Used quite generally as a textbook in library schools, a new edition embodying new material is a welcome addition to the subject. The general arrangement remains the same, with a pleasing innovation in the Introduction being given as *the cataloger as an interpreter of books,* lending a dignity to the profession not always accorded it. The emphasis on the book is also a good one, tending as it does to emphasize the underlying purpose of cataloging, and not just that it is an end in itself. Instructors in cataloging will appreciate the fact that the logical arrangement, which is so admirable for teaching purposes, remains the same, and will equally welcome the recasting of sentences with the omission of occasional didacticisms, and the up-to-date annotated bibliographies.

The general format of this edition is such a marked improvement over the original edition that its appearance would be justified without the very considerable revision of text. The lines of greater length, the Baskerville type, with much blacker type for headings, and the general arrangement of material on the page, all tend to make for greater readability. After the first shock of finding the table of contents on the left hand page opposite the first page of text, the effect is definitely pleasing. The index has been streamlined to such an extent that it contains approximately two-thirds as many entries as the first edition. References to individuals, particular libraries, and to the bibliographies seem to account for most of the omissions. This reduction in entries will reduce the value of the book for quick reference; nevertheless, this is offset to a certain degree by the better arrangement of material whereby subjects are readily located. The arrangement of contents at the head of each chapter, in two columns, but with no loss in legibility is also a marked improvement. Under war-time conditions it is probably a necessity to use black lettering instead of gold on the binding, which of all forms of lettering is the best so far as wearing quality is concerned.

Of the new material included, the concise treatment of the cataloging of microfilm is particularly helpful. In place of the heading *the card repertory,* a brief paragraph in the new edition appears on *union catalogs.* Economy in space probably precluded greater elaboration; however, somewhat more detail with specific mention of one or two of the outstanding catalogs would have been an improvement. The sample of a library keyboard is a desirable feature of the present edition, along with recommendations for machines with other special characters. The illustration for the large label holders for catalog cases is a waste of space since better illustrations are available in the regular catalogs of supply houses.

It is regrettable that administrators do not have in this edition the advantage of a complete revision of the costs of cataloging by such an eminent authority as Miss Mann. The figures in the Second Edition are the same as those in the first with the exception of those for catalog cases, which have been revised on the basis of the Library Bureau's Catalog for 1941.

The term "Signature" would seem a common enough bibliographical term not to require a footnote. If a few notes of this type were omitted, it might be possible to include a few others such as one to MacLeish's fine tribute in his Annual Report of the Library of Congress for 1940 to Martin Robertson, so that it would not be necessary to characterize him as "the former chief assistant librarian."

These criticisms are for the most part of minor matters which do not seriously detract from the excellence of this edition and its general usefulness.

ELIZABETH M. RICHARDS

POSTELL, WILLIAM DOSITE. *An Introduction to Medical Bibliography.* vii, 98 pp., 12 additional pages illustrated. New Orleans, Privately printed, 1943. (Planeographed.)

Mr. Postell has worked over his notes for publication of a course he has been giving in Medical Bibliography to the first year students in the School

of Medicine of Louisiana State University. Mr. Postell unlike some of us can catch his students before they develop definite library patterns and any medical student should profit by such library instruction.

The author in part one, *The story of medical literature,* discusses the different media of medical publications as they developed: viz., the manuscript, the book, the transaction, and the journal. In his bibliography to part one, 198 references are listed.

Part two is devoted to the use of medical books and libraries. The author discusses in brief: library citizenship, the card catalog, reference books, medical periodicals, medical indexes, and compiling bibliographies. This is followed by an appendix giving problems for the students to work on. There is no bibliography to part two.

THOMAS E. KEYS

RICCI, JAMES V. *The Genealogy of Gynaecology, History of the Development of Gynaecology Throughout the Ages 2000 B.C.-1800 A.D.* 578 pp., illus. New York, The Blakiston Company, 1943. $8.50.

This is one of the most delightful books on a special field of the history of medicine that has appeared in recent years. Schumann in a very sympathetic introduction emphasizes that, in spite of its early recognition as a specialty, gynecology has made its greatest advances since 1900, first in surgical measures and later in endocrine treatment. He suggests that further advances must be sought through other avenues of approach.

Ricci also points out that "An alumnus of the school of Cos, who learned his gynaecology from the lips of Hippocrates, would have experienced little difficulty in understanding the course of lectures delivered by that famous physician and lecturer, Jean Astruc, at the University of Paris, though more than two thousand years separated the lives of these two individuals." Change came abruptly in the wake of the French Revolution, but "more was accomplished toward the last half of the last century than in the previous two thousand years."

This is a source book of historical data in gynecology together with much of the history of obstetrics. The information is discussed in chronological order and because of this there is necessarily repetition concerning such subjects as sterility, abortion, menstruation and prolapse. The historical angle of pathological conditions reveals that pyosalpinx was recognized and ovarian cysts were tapped through the vagina as early as the eighteenth century. Changes in the treatment of imperforate hymen, morbid growths, pruritus and fistula are also described.

Although most of the early teaching has been discarded, we must respect the teaching of such men as Rhazes, renowned Arabian physician of the ninth century. Although he had some strange and erroneous ideas of the anatomy of the female, he possessed some sound principles of treatment. Among other measures for retention of menses he advised purgation, hot baths and massage; for immoderate bleeding, iron, vaginal packing with a mixture containing gall and alum; for postpartum hemorrhage, cold astringents and bandaging of the extremities; for prolapse he recommended anoint-

ing the parts with styptic decoctions, with reduction and replacement of the organ, packing the vagina with tampons soaked with astringents, and enforced rest; for sterility of fat women he prescribed exercise, regulation of diet, clysters and venesection; for hyperemesis gravidarum he applied plasters to the abdomen and administered pomegranate seeds. We must agree that Rhazes possessed a goodly store of sound sense.

The volume is written in a pleasing style with numerous references to the general history of men and events.

HOWARD DITTRICK, M.D.

SNIDER, JOHN D. *I Love Books.* 544 pp. Washington, *Review and Herald,* 1942. $2.50.

Anyone interested in general suggestions on why, what, how, and when to read will find these amply furnished in this work. In his analysis of the various angles of reading, Mr. Snider presents logical conclusions after studying each question quite thoroughly from the negative and the positive viewpoints. One problem dealt with is the usefulness of newspapers and magazines as worthwhile reading material. The book is full of delightful comments and anecdotes which illustrate the writer's point of view on the subject being discussed, and catch phrases as "The Mind Measures the Man" and "A Cataract of Printer's Ink" serve as chapter heads. Dispersed throughout are apt quotations from James Russell Lowell, Woodrow Wilson, Benjamin Franklin, Samuel Johnson, Mohammed, etc. The author also provides a bibliography with the following subject heads: Adventure and Discovery, Nature, Imaginative Literature, Political Economy, Science, etc. Although he makes no pretense at providing a very thorough bibliography, Mr. Snider does list books in each division for both the new and the more advanced reader.

JEAN KABANY

SPECIAL LIBRARIES ASSOCIATION. *War Subject Headings for Information Files.* 2nd edition. 69 pp. New York, Special Libraries Association, 1943. $2.00.

The form and octavo size of this printed edition of WAR SUBJECT HEADINGS FOR INFORMATION FILES is much more convenient to use than the larger planographed first edition which appeared in May, 1942.

This 69 page work contains four separate lists of subjects headings, used by four types of libraries, each representing a different viewpoint. Notes, preceding each of three lists, explain the plan and purpose of the list.

The list of the Twentieth Century-Fox Film Corporation, which appeared in the first edition, has been omitted, and the list used by the Library of Standard and Poor's Corporation has been added.

The Library of the Council on Foreign Relations' list, 11 pages in length, emphasizes current European War material, using the heading European War, and is the same as appeared in the first edition.

The list of Time, Incorporated, less than five pages in length, is a classification scheme used for its war clipping files. The first group of headings

is for general material relative to all countries, and most of the general headings may be used as subdivisions under the name of each belligerent. Only slight revision of first edition material has been made.

The Library of Standard and Poor's Corporation has limited its war file to the "economic aspects of the war," with special emphasis on the United States. Such subjects as export control, foreign trade, labor and industry are well covered in this list, which is 24 pages in length, and is well supplied with cross references.

The subject headings used in the pamphlet and clipping files in the War Information Center of the Cleveland Public Library have been selected for current materials relative to war and defense. A large number of new headings and references, to keep pace with new material, has been added to this edition, now 26 pages in length as compared to the 10½ pages of the first edition. Popular, rather than scholarly and technical headings are generally used, with the necessary reference from the headings not used. This list covers more fully than the others, as might be expected, such subjects as civilian defense, rationing, weapons, and the U.S. armed services. Well selected headings and an excellent system of cross references make this a useful list for a general library.

BLANCHE WATTS, Librarian, Cleveland College

STERN, KURT, and WILLHEIM, ROBERT. *The Biochemistry of Malignant Tumors.* 951 pp. Brooklyn, Reference Press, 1943. $12.00.

The cancer problem has been approached from every angle of biological science but no single one has given any indication of yielding the answer. It is now apparent that its final solution will involve the application of more than one technique. From the very extensive literature on the subject of neoplasia, the authors have collected and summarized those articles dealing primarily with the application of chemistry.

A monograph covering this field has been published by the same authors at an earlier date (*Die Wege und Ergebnisse Chemischer Krebsforschung,* Vienna: Aeskulap-Verlag, 1936), but the present volume is the first to be generally available to English-speaking countries. The greatest emphasis has been placed on the work of the past quarter-century and the literature has been systematically covered to the end of 1941. Also included are a number of articles appearing in the first half of 1942.

The subject matter is treated under ten major headings: inorganic, organic and physical chemistry, enzymes, nutrition and vitamins, biochemical aspects of tumor origin and growth, immunology, metabolism, endocrine glands and hormones, and the application of chemistry to the diagnosis of tumors. There are excursions from pure biochemistry in some of the chapters but on the whole only those subjects are covered in which chemical substances or methods are utilized in the study of the origin, growth, diagnosis and treatment of tumors.

The extent to which chemistry has been called upon in attempting to solve the origin of cancer is emphasized by the inclusion of nearly 5000 references in this critical work. This should stress the value of this

book to anyone interested in any phase of the study of neoplasms. But it is not merely a bibliography. For one working in the field it is a well arranged summary of the results already obtained. For one less well acquainted with the subject it is sufficiently detailed to provide a good general background. Of particular value is the commendable attempt of the authors at critical evaluation of the data presented. With reasonable success they try to explain or reconcile contradictory results. They point out many instances of the advisability of applying more modern techniques to supplement, clarify or extend the older data.

Considerable space has been devoted to the presentation of data of an entirely negative character. These negative results might, at first glance, seem to be an indictment of the use of chemical methods in the study of cancer. On the contrary, they are one of the most valuable features of this volume. By pointing out the failures as well as the achievements of chemistry in this field, its future range of application is much better defined and direction is given to lines of research which will supplement results from other branches of science in the final solution of the problem.

J. WADE PRICE

STRECKER, EDWARD A. *Fundamentals of Psychiatry.* 201 pp. Philadelphia, J. B. Lippincott Co., 1943. $3.00.

This brief book of 200 pages is a clear presentation of the fundamentals of psychiatry by one of the leading psychiatrists of this country. It is written in a readable manner so that it should appeal to people not trained particularly in this special field. The book is up-to-date and covers the subject adequately. For a brief treatise, useful for reference in libraries, that may safely be put into the hands of lay readers, this book is highly recommended. An interesting and useful feature is the glossary which forms the end papers of the book, giving quick reference to definitions of words frequently used in psychiatric conversation. This feature alone will be of value to the reference librarian, but the book has other aspects also valuable.

HENRY R. VIETS, M.D.

TRUBY, ALBERT E. *Memoir of Walter Reed, the Yellow Fever Episode.* xiii, ½ tp., 239 pp., illustrated. New York, Paul B. Hoeber, Inc., Medical Book Department of Harper and Brothers, c1943. $3.50.

General Truby records in this memoir the story of his early professional life which was launched into the midst of great historical events and among medical men whose names were to become famous throughout the world.

The greatest of these events was the conquest of yellow fever and the man to become most famous was Major Walter Reed. The author gives special credit to Brigadier General J. R. Kean and Dr. Phillip S. Hench for their extensive collection of old records which aided in clearing up all doubtful points and in evaluating the part played by each of the actors in the dramatic episode of yellow fever.

Dr. Carlos J. Findlay of Havana conceived the idea of the rôle of the mosquito in yellow fever, while Walter Reed and his associates, Carroll,

Agramonte and Lazear, demonstrated that rôle by converting a discredited hypothesis into an established doctrine.

Among the illustrations of special interest are the colored frontispiece, "The Conquest of Yellow Fever," by Dean Cornwell, N. A. and a facsimile of Walter Reed's letter to the author, which seems to be the first written account of his first experimental case of yellow fever.

Throughout the book General Truby relates his own personal experiences with great modesty while emphasizing the splendid way Major Reed performed his duties, the way he lived and worked in Cuba and the influence and example he set for the younger men who were associated with him.

The book is particularly recommended to doctors and lay readers interested in historical medicine.

A. I. LUDLOW, M.D.

WOOLMER, RONALD, *Anaesthetics Afloat*. With an introduction by Surgeon Captain H. D. Drennan. 120 pp., illus. London, H. K. Lewis and Co., Ltd., 1942. 6 shillings.

This is a compact little book by a naval officer who is also a physician. He views his subject as an expert anesthetist and writes with the punch of a Navy man.

While he discusses the advantages of a wide variety of anesthetic agents, he also warns of their contraindications. The same is true of complications and treatment. He does not leave the reader dangling, puzzled over some emergency that might arise. The simple tests for tolerance of the anesthetics available to men on board ship are lucidly set forth. This latter section provides a terse refresher outline of value to any anesthetist. As the anestetist Dr. Woolmer states: "The path of anesthesia is liberally supplied with sign posts and land marks. A sound knowledge of these signs and a cool head should be sufficient to ensure successful anesthesia." As the Navy officer he picturesquely tells us: "To give a good gas to a tough sailor is one of the most difficult tasks in anesthesia. The inexperienced anesthetist faced with this problem resorts all too often to asphyxia on the theory of 'the tougher, the blacker.' . . . This replacement (nitrous oxide for nitrogen in the blood plasma) takes time, so that 'the tougher, the slower' should be the guiding principle."

The book is filled with such arresting descriptions which fix themselves in the reader's mind.

It is an authoritative, convenient volume of pocke size, suitable for anesthetists in any of the military services. Because of the attractive size, any anesthetist will enjoy having it within easy access.

HOWARD DITTRICK, M.D.

OLD HICKORY BOOK SHOP, 65 Fifth Avenue, New York 3, New York, has recently issued catalogue no. 77 under the title, "Medicine and Science, Books —Pamphlets—Autographs." This seventy-two page brochure covers a broad field and includes many American items. There are Israel Allen's *A Treatise on Scarlatina Anginosa, and Dysentery* (1796), many items by John Shaw

Billings, some of the works of Harvey Cushing, Daniel Drake, Samuel D. Gross, Oliver Wendell Holmes, David Hosack, Valentine Mott, and twenty-four Osler items including *Christmas and the Microscope* (1869), and his *Illustrations of the Book-Worm* (1917).

A new catalog of technical books has just been issued by THE CHEMICAL PUBLISHING CO., INC., 26 Court Street, Brooklyn 2, New York. This catalog includes their latest books on chemistry, technology, physics, general science, mathematics, engineering, radio, aviation, foods, formularies, cosmetics, gardening, medicine, metals, technical dictionaries, etc. The publishers will send a copy of this catalog free upon request.

ROBERT BRUNNER, dealer in psychiatric books, 28 West 48th Street, New York 19, New York, has recently issued a list entitled "New Books on Psychiatry, Psychoanalysis, Neurology."

MISS L. MARGUERITE PRIME has revised her list of books recommended for use in The Hospital Medical Library originally published in the Bulletin, *American College of Surgeons,* April, 1941. It has been corrected to September 1, 1943. Copies are available to interested persons applying to the American College of Surgeons, Library, 40 East Erie Street, Chicago, Illinois.

The Office of Civilian Defense, Rescue Section, Medical Division, has recently (November 22, 1943) issued *A Technical Manuel for the Rescue Service.* In this important publication, methods of rescuing persons trapped in buildings demolished by high explosive bombs or in wreckage caused by other types of disasters are described. Every librarian should have this booklet within reach.

MISS ALICE MCCANN reports a recent and valuable gift received by the Library, School of Medicine, University of Pittsburgh. It is a reprint dated 1784, from the original published in 1590, of an old and rare materia medica printed in block type Chinese characters. It is animal, mineral and vegetable, and contains many illustrations and is made up of 48 small books in six cases, and was written by Li Shi Chen and entitled "A Synopsis of Ancient Herbals." This is a work of the Ming Dynasty, and contains over 2,000 prescriptions. It is the accepted standard for Chinese physicians today. It recognizes the use of iron for anemia, arsenic for skin diseases and intermittent fever, and many other drugs which are now being used. The library's copy is one of two in the U. S., the other being in the Library of Congress.

The donor is Lieut. Col. Joseph A. Mendelson, who was in charge of the department of military medicine at Pittsburgh a year ago. Col. Mendelson is a veteran of the first World War and has been decorated four times. He was a member of the U. S. Military Mission to China and was also surgeon of the U. S. Forces in China, Burma, and India.

John L. Thornton, Librarian of St. Bartholomew's Hospital Medical College Library, has written an interesting article entitled: "Seventeenth Century Medical Books." This appears in the *Library World* for July, 1943, and is to be continued. It is an abstract of a chapter from *Medical Books, Libraries and Collectors. A Study of Bibliography and the Book Trade in Relation to the Medical Sciences* by Mr. Thornton. This is soon to be published by Grafton. Mr. Thornton is now serving with the British Army.

The *Army Medical Bulletin* has been revised. Beginning with October. 1943, it has been published monthly instead of quarterly under the new title, *The Bulletin of the U. S. Army Medical Department.* It now includes material of the type formerly published quarterly in the *Army Dental Bulletin* and the *Army Veterinary Bulletin.* The latter mentioned bulletins have been discontinued.

Mr. J. F. Whelan has asked us to announce an error in the numbering of the pages of the *Bulletin of the Society of Medical History of Chicago,* Number 4, Volume 5, dated July 1943. The numbering in the issue began with page 1 instead of with page 247. The pages in the table of contents should be 247, 265, 273, 277, 285, 290, and 301.

New Journals

Medical librarians and physicians and research workers have hoped for many years for a summary in English of the recent advances in the theory and practice of Soviet medicine. The appearance (Oct. 1, 1943) of the new journal, *American Review of Soviet Medicine,* now makes this possible. This scholarly journal is published bi-monthly by the American-Soviet Medical Society, 130 West 46th Street, New York 19, New York. Dr. Walter B. Cannon is president of the society and Dr. Henry Sigerist is the editor. Congratulations are in order on this important undertaking.

Appreciating the importance of the medical library as a medium for the dissemination of information relating to medical progress, the editorial board of *Annals of Allergy,* the bimonthly publication of the American College of Allergy, has decided to make the publication available to all such libraries at a twenty per cent discount. Librarians interested in this publication are urged to write to Dr. F. W. Wittich, Secretary, American College of Allergists, 2642 University Avenue, St. Paul 4, Minnesota.

The attention of Physicians and Medical Librarians is directed to a new journal that has recently (November, 1943) made its appearance, the *Quarterly Review of Medicine* (314 Randolph Place N.E., Washington 2, D.C.). It will abstract articles from the leading journals in the clinical field. It is hoped that following the war more foreign publications will be added to the list of journals reviewed.

Our Contributors

DR. LEONA BAUMGARTNER is Director of the Services for Children, Department of Health, New York City. She is also Assistant Professor of Public Health and Instructor in Clinical Pediatrics at Cornell University Medical College. She holds M.D. and Ph.D. degrees from Yale University. In 1935 with Dr. John F. Fulton, Dr. Baumgartner compiled *A Bibliography of the Poem Syphilis, Sive Morbus Gallicus by Girolamo Fracastoro of Verona.* Dr. Baumgartner has written many historical articles including "Edwin Klebs, a Centennial Note" (New England M. J. 213: 60-63 (June 11) 1935).

DR. FINLEY FOSTER is Oviatt Professor of English at Western Reserve University. He has recently written, in collaboration with Homer Watt, a book entitled *Voices of Liberty* (New York, Macmillan, 1941). This was recognized as one of the "Sixty Textbooks of the Year" (1942) by the American Institute of Graphic Arts. He has also edited (with Helen C. White) a book of selections entitled, *Victorian Prose* (New York, Prentice-Hall, 1930; 1937). Dr. Foster is an amateur photographer of note and is the originator of a graduate course in the interrelationship of art and literature. He is also a member of the advisory council of the Cleveland Museum of Art.

DR. JAMES HOLLY HANFORD is Professor of English at the Graduate School at Western Reserve University. He is considered one of the leading authorities on Milton. He is the editor of *Milton's De Doctrina Christiana* in four volumes. (New York, Columbia University Press, 1933-1934), and the author of *A Milton Handbook* (Ed. 3, New York, Crofts, 1939). In 1941, Dr. Hanford was elected to the Council of the Modern Language Association. Other books by Dr. Hanford are *Wine, Beer, Ale, and Tobacco* (1915), *Selections from Milton* (1923), *Death and Life* (1918) and *The Great Tradition* (1919).

MAJOR THOMAS E. KEYS, on leave of absence from the Mayo Clinic, is Officer in Charge of the Cleveland Branch of the Army Medical Library and Editor of this Bulletin.

W. B. MCDANIEL, 2d, is Librarian of the College of Physicians of Philadelphia. He is President of the Philadelphia Metropolitan Library

Council and Secretary of the American Association of the History of Medicine. For other biographical information see this Bulletin 30: 91 (Oct.) 1941.

HENRY SCHUMAN of New York City and formerly of Detroit is a supporting member of the Medical Library Association. He is well known to medical librarians and students of medical history as a dealer and publisher of material relating exclusively to the history of medicine and science.

DR. KHALIL GEORGES WAKIM is professor of Physiology in the Medical School of Indiana University in Indianapolis and Bloomington. He was born July 17, 1907, in Sidon, Syria. He received his B.A. degree in 1929 and M.D. degree in 1933 from the American University of Beirut, Lebanon. He was instructor of Physiology in the Medical School of the American University of Beirut for four years and spent one year practicing medicine and studying health conditions of the Bedouin nomads on the border of the Syrian Desert. He spent several summers in public health work in Syria and Palestine. He received a Mayo Foundation Fellowship in 1938 and in 1941 received a Ph.D. degree from the Mayo foundation and University of Minnesota. Dr. Wakim has published several original papers on various medical subjects such as shock, the circulation of the liver, intestinal activity, and kidney function.